

# Ranger Rick

National Wildlife Federation

March 1988



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The Covers: Front—Tom & Pat Leeson; Back—Charles Krebs; Page 3—Ron Austing

**The porcupine on the front cover  
lives in North America and the  
red panda shown here lives in  
faraway Asia. But they have one  
thing in common: They both  
spend a lot of time in trees. Read  
pages 12 through 20 to find out  
how important trees and forests  
are to other animals.**

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# FAST FACTS:



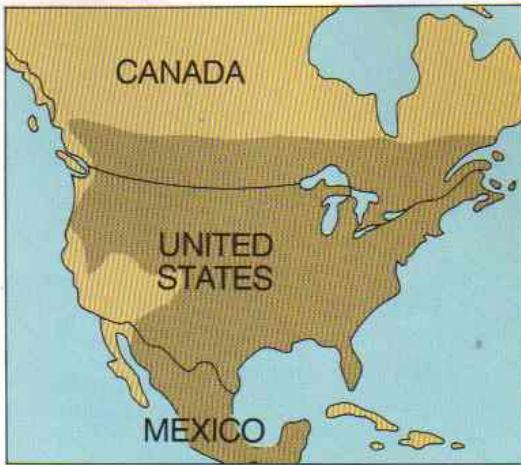
## White-tailed Deer

**Height:** 3 to 3½ feet (91 to 107 cm) at the shoulders

**Weight:** Most bucks, or males, weigh about 150 pounds (68 kg). But some can weigh more than twice that much. Most does, or females, weigh about 100 pounds (45 kg).

**Habitat:** Forests, swamps, and open brushy areas. Many deer are found on farms and even in suburbs.

**Range:** See map (also extends into South America).



■ If a white-tailed deer senses danger, it will flick its tail to warn deer nearby. Then they all take off with their tails raised high. They got their name from the white flash of their raised tails (**see photo 1**).

■ Deer are great disappearing artists. Enemies probably wouldn't notice this deer as it hides among wildflowers (**2**). But even out in the open, the deer's brownish coat often blends into its surroundings.

■ Whitetails have a very good



sense of smell. For example, they may be able to pick up the scent of a dog half a mile (.8 km) away. They have great hearing too. Their big ears can turn in all directions to pick up the faintest sounds.

■ Deer have good eyesight, but they may not be able to see colors. They are very good at seeing movement though. A deer may not see a person standing still. But even a blink of the person's eye could send the deer dashing away.



Photos by Tom & Pat Leeson; Mike Biggs

- Female deer usually have one to three *fawns*, or young, in the spring. After a fawn is born, its mother licks it from head to tail (3). Soon the fawn is clean and dry.
- A fawn usually stays hidden among bushes or in tall grass (4) during the first few weeks of its life.
- A doe doesn't stay with her fawn while it's hidden. She doesn't want to draw an enemy's attention to it. But she's always nearby, coming back when the fawn needs to nurse or is in danger.
- When danger is near, a fawn stays perfectly still. It curls up with its head on the ground and its ears flattened against its neck.
- A doe will fight an enemy, such as a wolf or coyote, with her sharp front hoofs. She may even kill a snake to protect her fawns—jumping on it over and over, cutting it to pieces with her hoofs.
- Fawns will usually lose their spots when they're about three to four months old.
- Young deer stay with their mother long after they have stopped nursing (5). Young males stay for about a year, young females for about two.



# FAST FACTS:

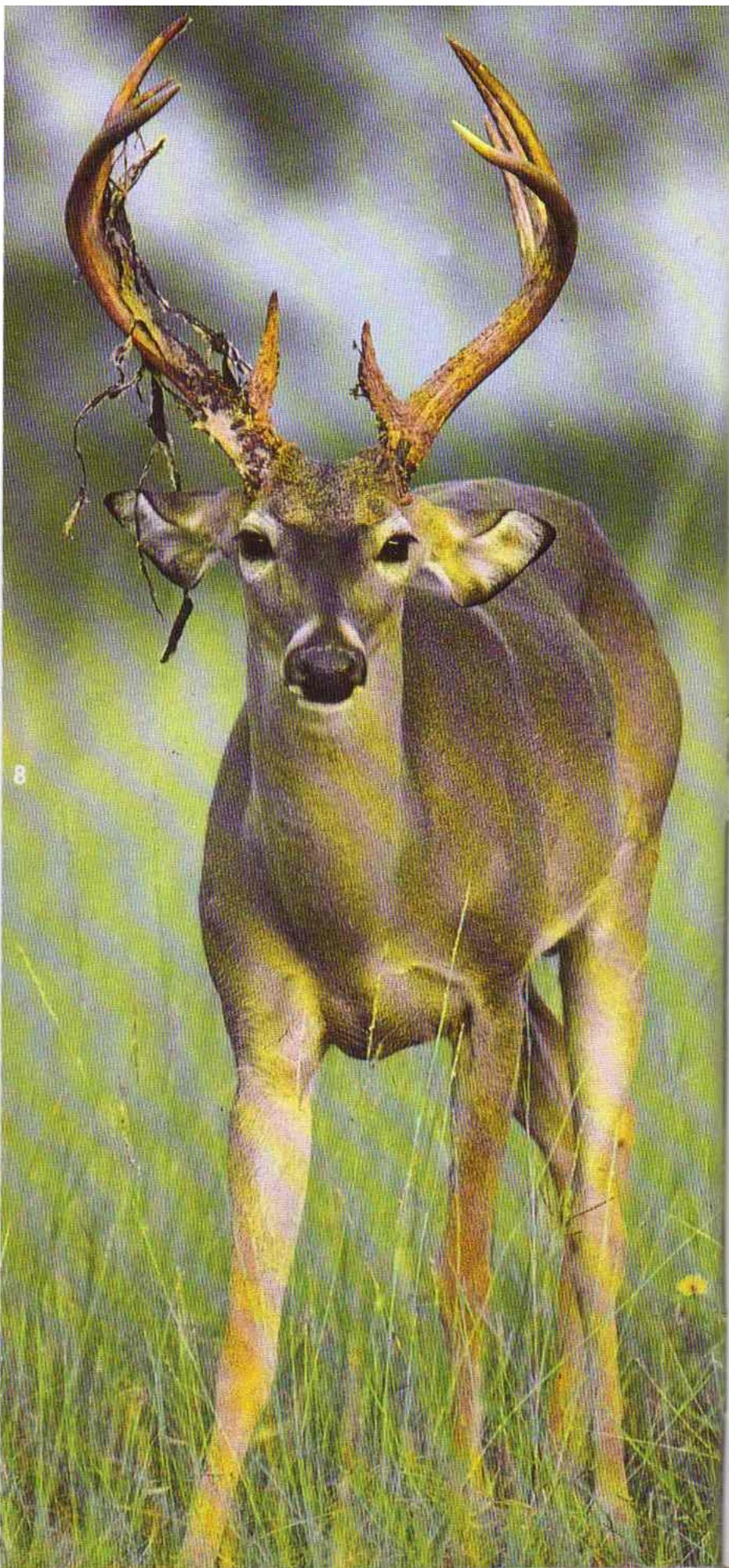
## A Fawn Grows Up



Photos by William J. Weber; Erwin & Peggy Bauer; Bill Kinney

# FAST FACTS:

Antlers Great and Small



■ A buck usually doesn't grow antlers the first year of his life. Instead, he has little nubs where his future antlers will grow. (Female whitetails rarely grow antlers.)

■ During a buck's second year, he usually grows short, straight antlers or antlers that fork. In following years he grows branched antlers that can spread over 2 feet (60 cm) from side to side. Antlers that size would weigh about 4–6 pounds (2–3 kg).

■ The antlers of a healthy buck can grow up to half an inch (13 mm) a day. Photos 6 and 7 show how much they can grow in only about two weeks!

■ A buck's antlers are covered by a thin layer of skin while they're growing. This skin is called "velvet" because it's covered with short, fuzzy hairs. Under the velvet are thousands of tiny blood vessels. A mineral in the blood called *calcium* helps the antlers grow.

■ By the end of each summer, a buck's antlers are fully grown. Then the velvet dries up and begins to peel off (8).

■ The buck rubs his antlers against bushes and saplings. That scrapes off the rest of the velvet and polishes the antlers.

■ During the fall *rut*, or breeding season, bucks fight over does. They put their heads

against each other and push (9). Each uses its antlers to try to throw the other off balance.

■ At the end of the rut, the bucks' antlers fall off (10). You may never find any, though, because mice, squirrels, and other rodents nibble away at them until they're gone.



10



9

# FAST FACTS:

## Surviving All Seasons

- White-tailed deer aren't very fussy eaters. They'll eat twigs, leaves, bark, buds, acorns, grass, grain, mushrooms, vegetables, fruit (11), and even poison ivy!
- Whitetails are fast runners. A six-day-old fawn can already run faster than you can. And adults can run almost 40 miles (65 km) per hour when they have to. They can also jump 8 feet (2.4 m) high. So fenced pastures and fields are easy for them to get into (12).
- In winter, deer eat twigs, bark, and whatever else they can find (13). But deep snow, especially in the North, often makes it hard for them to find food. Many starve to death.
- Deer weakened by starvation are easy prey for predators. This mule deer, a Western cousin of the whitetail, has been killed by a cougar (14).
- Each year, human hunters are allowed to kill a certain number of deer. This can help keep the deer's numbers from getting too large.
- White-tailed deer are great survivors. There are probably more deer in North America now than there have been for the past 200 years.

—Kathy Walsh





11



12



13



14

Photos by Thomas Kitchin, Mike Biggs, Lynn Rogers, W. Perry Conway/Tom Stack & Assoc.

# Adventures of Ranger Rick

Story by Sallie Luther; drawings by Alton Langford

It was a perfect spring day in Deep Green Wood. Sunshine snuggled into each nook and cranny of the hillsides. Puffy clouds scooted across a high, wide sky. And all over the forest, leaves were once again green on all the trees.

"Trees, trees—just blowin' in the breeze," rhymed Scarlett Fox with a lazy smile.

Sammy Squirrel was next: "Spring is everywhere and I like it fine—I'll climb up the oak and run down the pine!"

The friends chuckled together, and then it was Ollie Otter's turn: "Squirrel, squirrel—your brain's in a whirl!"

"Eee-hee, aah-haa, ooh-hoo," laughed everyone together.

Odora Skunk was next: "This little skunk thinks—your poetry stinks!"

From his home in a hollow oak tree, Ranger Rick Raccoon called down: "Stop all this riot—I need some quiet!"

"Boo . . . hissss . . . grumpface," joked his friends. They all knew Rick really loved poetry. In fact, they were all eager to find out who had won Rick's big poetry contest. But before they could find out, Cubby Bear came crashing through the forest.

"Rick, come quick! They're chopping down Deep Green Wood!"

"What? Who? Where?" the friends asked.

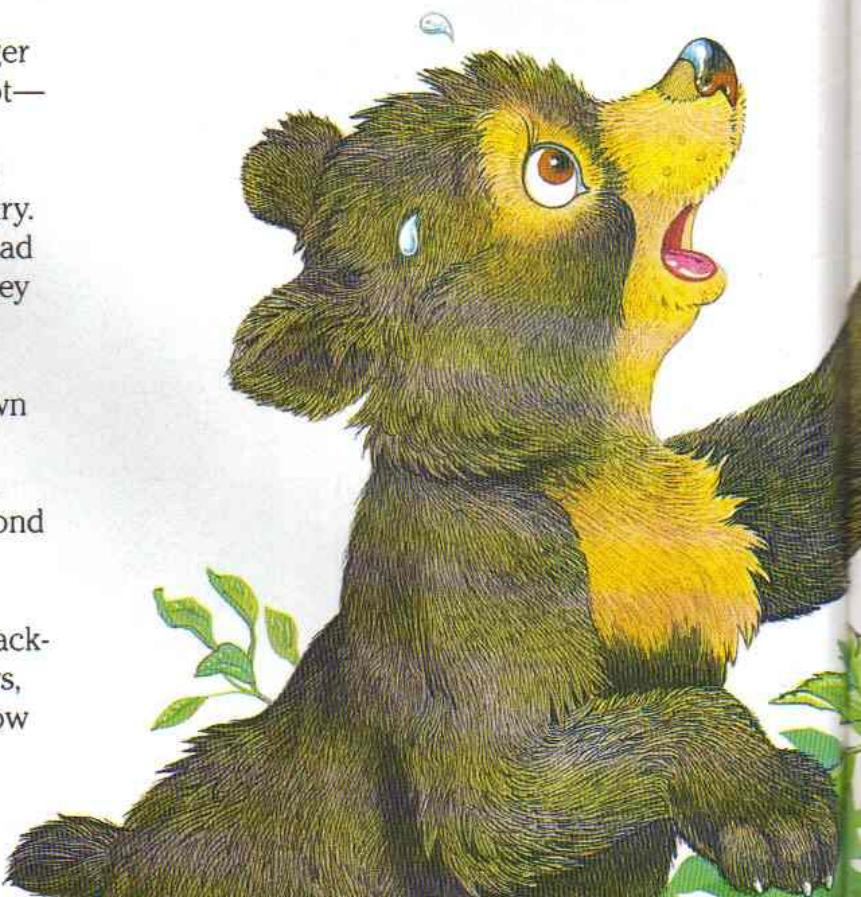
"Over on (gasp) the far edge (gasp), beyond Shady Pond," panted the bear. "I heard all these trucks, then a bunch of people yelling and shouting back and forth, then some whacking and hammering. Next, I heard chain saws, and trees came crunching down. I don't know

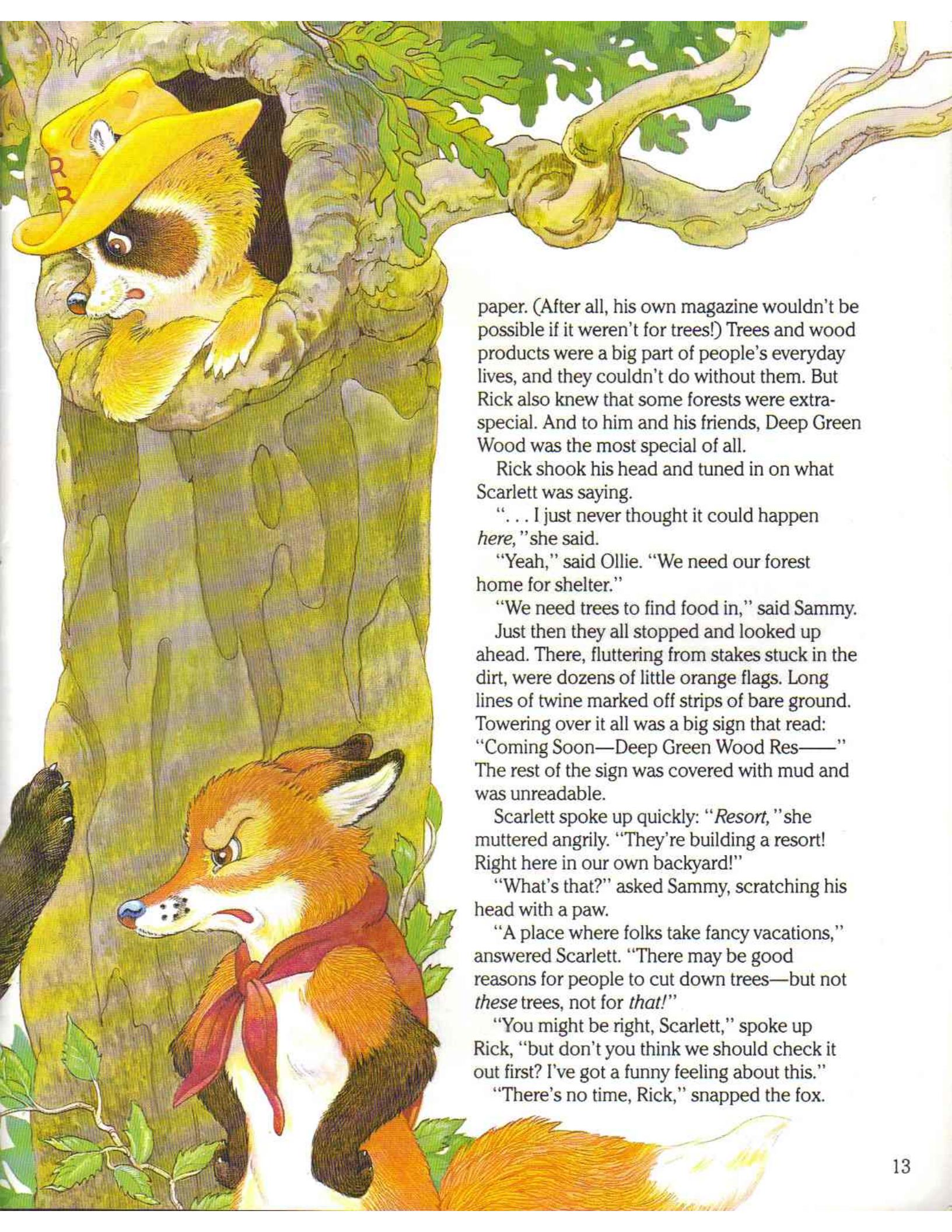
who's doing it—but they're *doing it!*"

"We'll see about that!" snarled Scarlett, her fur bristling with rage. She started away.

"Scarlett, hold it. Whoa, whoa, whoa!" called Rick. He had scurried down the tree at Cubby's dreadful news. Now he hurried after his friend and partner. "You can't just go charging off into trouble without thinking, Scarlett," he cautioned. "First we've got to figure out what's going on. We can talk while we walk," he added.

Rick was trying his hardest to keep calm. He knew that people needed trees for many things. They needed them for lumber and other building products. And they needed them to make





paper. (After all, his own magazine wouldn't be possible if it weren't for trees!) Trees and wood products were a big part of people's everyday lives, and they couldn't do without them. But Rick also knew that some forests were extra-special. And to him and his friends, Deep Green Wood was the most special of all.

Rick shook his head and tuned in on what Scarlett was saying.

"... I just never thought it could happen *here*," she said.

"Yeah," said Ollie. "We need our forest home for shelter."

"We need trees to find food in," said Sammy.

Just then they all stopped and looked up ahead. There, fluttering from stakes stuck in the dirt, were dozens of little orange flags. Long lines of twine marked off strips of bare ground. Towering over it all was a big sign that read: "Coming Soon—Deep Green Wood Res—" The rest of the sign was covered with mud and was unreadable.

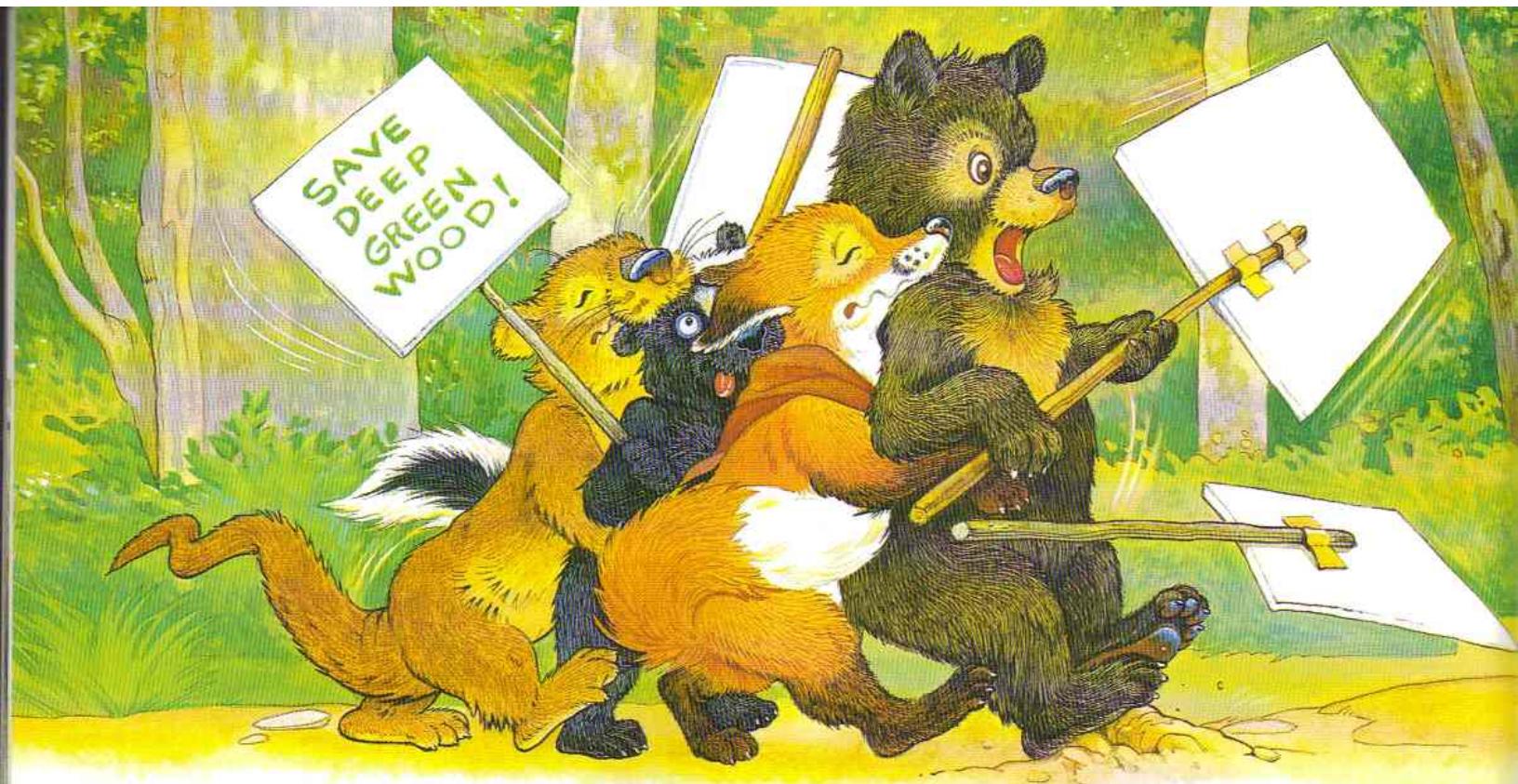
Scarlett spoke up quickly: "Resort," she muttered angrily. "They're building a resort! Right here in our own backyard!"

"What's that?" asked Sammy, scratching his head with a paw.

"A place where folks take fancy vacations," answered Scarlett. "There may be good reasons for people to cut down trees—but not *these* trees, not for *that*!"

"You might be right, Scarlett," spoke up Rick, "but don't you think we should check it out first? I've got a funny feeling about this."

"There's no time, Rick," snapped the fox.



"You know how fast a forest can vanish. You can sit around and think, if you want to. But I'm not goin' to let 'em get away with this! Who wants to help?"

"Me!" . . . "I do!" . . . "Count me in!" cheered all the animals—all except Rick.

"You go on without me," he said quietly. "I'm going to find out what's up."

During the next few hours, the animals worked like crazy. They made posters, painted signs, and wrote letters to anyone who they thought might help. Finally they were ready.

"OK, everybody, let's go," said Scarlett.

The animals picked up their posters and signs and letters, then set out for nearby Big Town. They planned to put up their handiwork wherever they could. They had even called a local TV station, and a reporter had promised to cover their story.

As they marched along, they chanted: "We all need forests! We all need forests! We all need . . . *whooops!*" squealed Cubby, who was now in the lead. He had stopped in his tracks. Ollie and Odie and Scarlett plowed into him like cars piling up in a freeway fender-

bender. Standing in the middle of the trail ahead, paws on hips, was Ranger Rick.

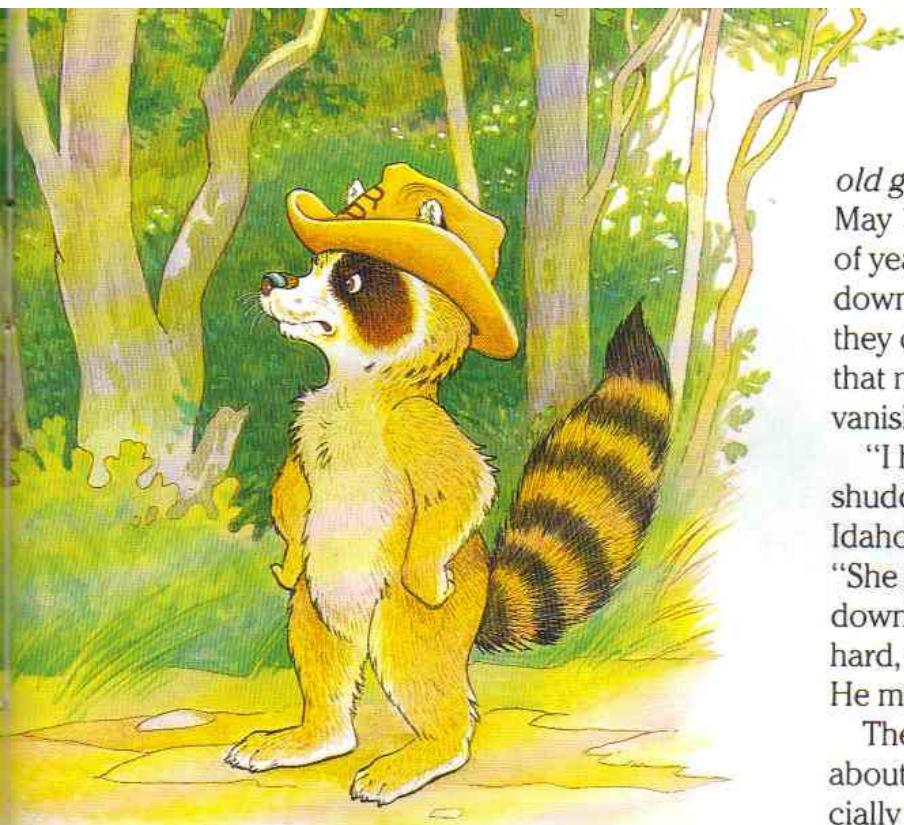
"I'd like to show you guys something," he said, with just a little anger.

"Rick, we've got to get goin'," said Scarlett, stepping forward. "We've got to look out for Deep Green Wood. And I can't believe you aren't in there leading the fight!"

"You're barking up the wrong tree this time, my friend," said Rick, "if you'll pardon the tree humor. Follow me, OK? And trust me."

"Sure, Rick, go ahead," said the fox. She couldn't stay mad at her raccoon friend. Besides, she was dying of curiosity to see what he had up his sleeve.

The group of animals moved along quietly now, and quickly they came to where the "resort" was being built. The little orange flags and the lines of twine were still there, all right. But someone had washed most of the mud from the sign. It now read: "Coming Soon—Deep Green Wood Reserve—a Special Wildlife Sanctuary and Nature Trail." Below that, in smaller print, it told how the trail would be paved and set up with special signs and tape players. That



way everyone, including disabled people, would be able to enjoy the forest.

"Ooops," said Cubby, putting down a poster.

"Uh-oh," said Ollie, laying down a sign.

Scarlett said nothing for a minute. "Boy, I guess I really blew it. Sorry, Rick, old buddy," she said. "You were right. I should have found out first what was going on. I forgot that besides all the other reasons people need forests—they also need them for hikin' and campin' and plain old peace and quiet. And with this trail being built, *everyone* can get out and enjoy those things. It's pretty selfish to think that only we animals can use these woods."

The friends all nodded in agreement. Then, with their signs and posters tucked under their arms, they started for home. Each seemed lost in his or her own thoughts, Scarlett especially.

"You know, y'all," she said quietly, "forests can be *more* than trees."

"Yeah, and some forests have special jobs to do—for wildlife and for people," said Sammy. "Remember our friend Trixie, the spotted owl?" He then recalled how he and Rick had visited the owl two years before. She lived in an

*old growth* forest in Oregon (see *Ranger Rick*, May 1986). They had seen giant trees hundreds of years old that were in danger of being cut down. If the old growth forests were cut down, they could never be replaced. And the animals that needed them to survive would also vanish—forever.

"I hate to even think about such things," shuddered Ollie Otter. "An otter I know in Idaho told me something else," he went on. "She told me that sometimes trees are cut down on steep hillsides. Then when it rains hard, the soil just washes away—*whooooosh*." He made a sweeping motion with his arm.

Then Rick spoke up. He wasn't worried just about forests in North America. He was especially worried about tropical forests. From Brazil to Burma, the trees were going . . . going . . .

"Gone, in many cases," Cubby added. "I heard that tropical forests are disappearing like crazy."

"You know what?" asked Odora. "I think I'll get all the animals I know to hold our *own* poetry contest, Rick. It's a great way to keep folks thinking about forests—how they need them, and how they need to use them wisely. There's nothing to it—even *you* can do it," she joked, poking Sammy with a paw.

"I think that I shall never see a poem so furry-faced as thee," Sammy replied.

"What is a forest? A shadow, a bird, a place to play in dappled sunshine . . ." began Odie.

"That's not a poem. It doesn't rhyme," fussed Ollie.

"It sure 'nough is," answered Scarlett. "It's called free verse, and it doesn't *have* to rhyme."

"Does too," said Cubby.

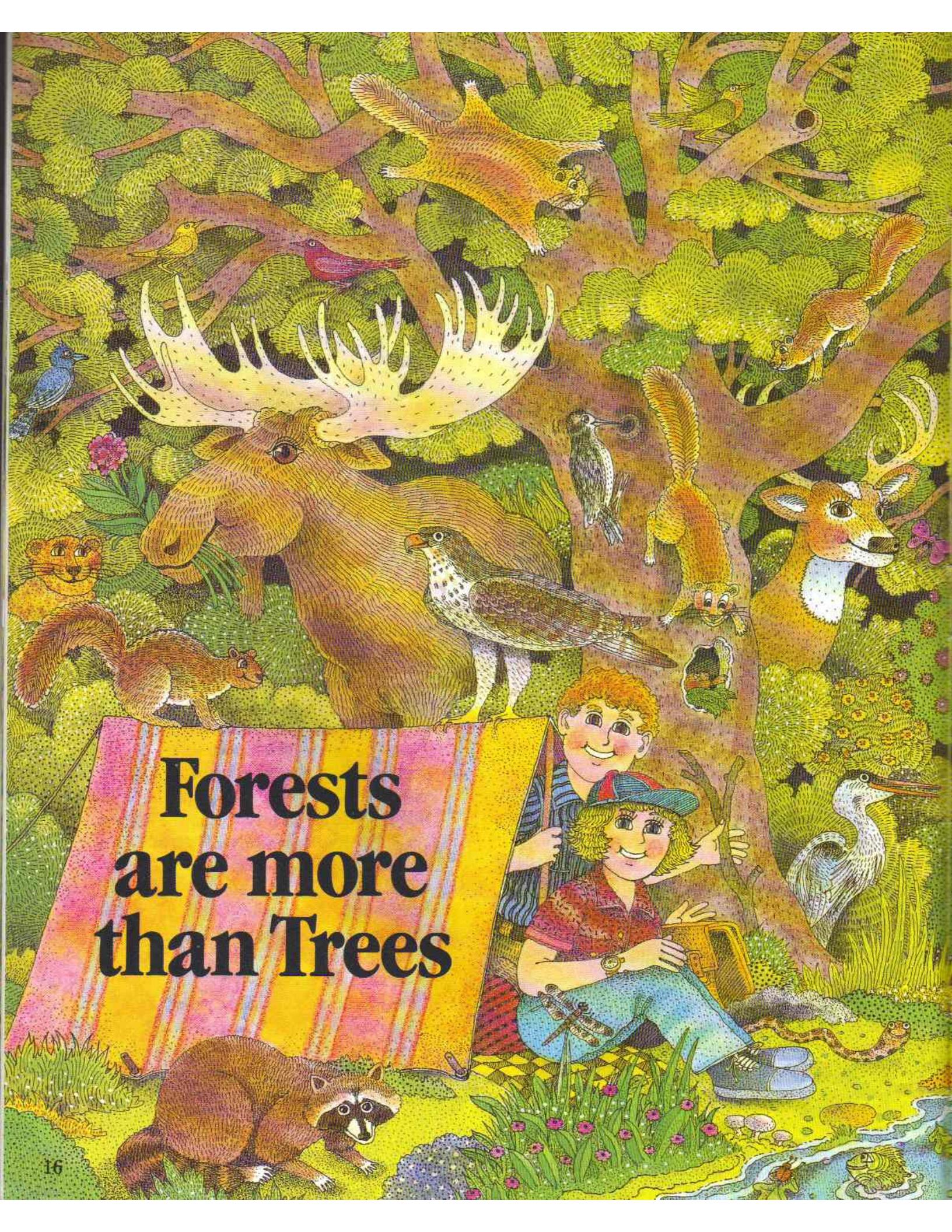
"Does not," said Scarlett.

"Does too, does *too*," added Sammy. Things were back to normal in Deep Green Wood.

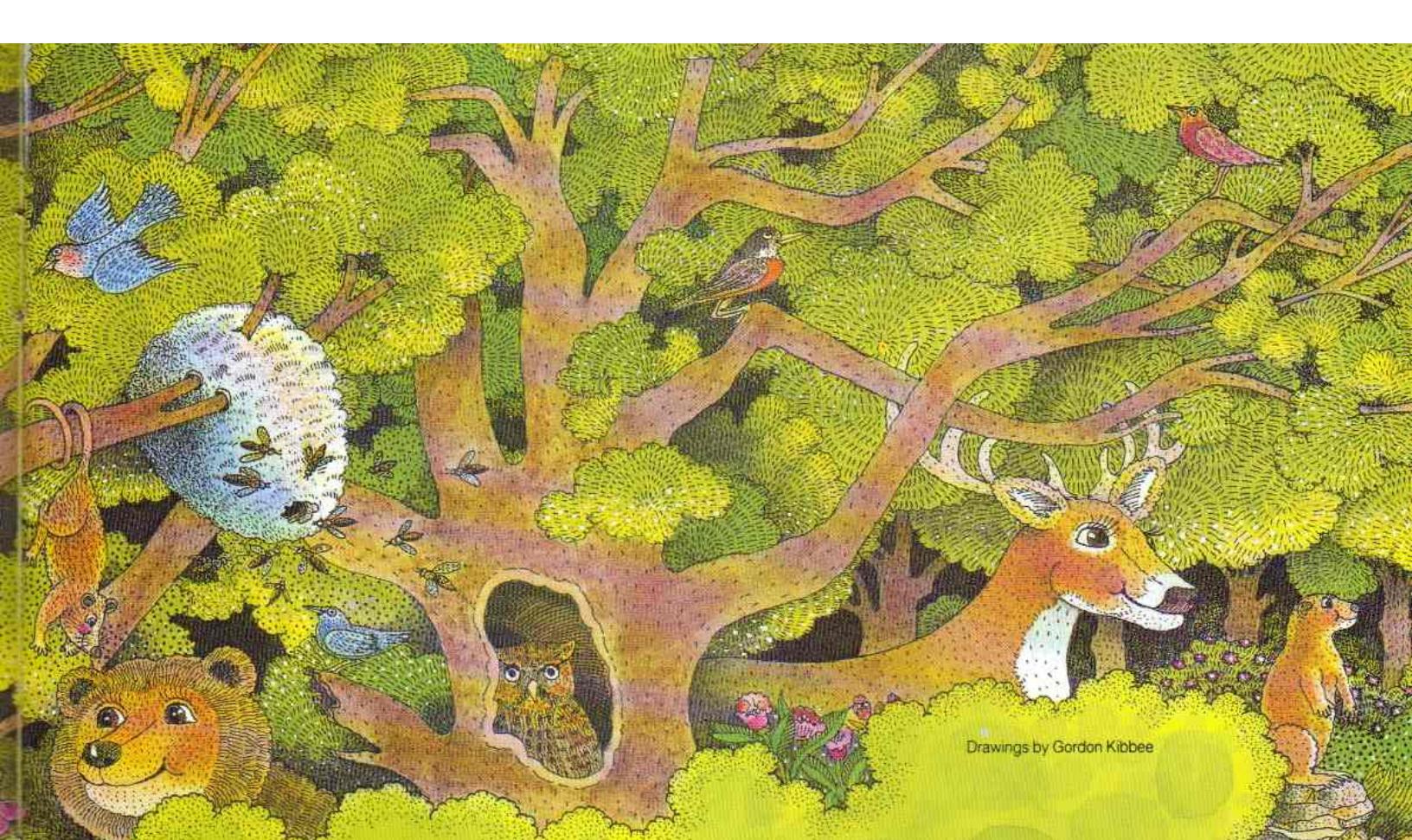
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**Rangers:** To find out the winners of my poetry contest, be sure to see pages 16–21.

R.R.



**Forests  
are more  
than Trees**



Drawings by Gordon Kibbee

Last October, we asked you to write a poem about why forests are super special. Your poem was to have the title "Forests Are More Than Trees," which is also this year's theme for National Wildlife Week (March 20-26).

We had a hard time picking our favorites—over 17,000 of you sent in wonderful poems! We read poems about real forests and imaginary forests, forests far away

and forests near your home. We read about animals and plants in forests, and all the fun you have playing in forests.

It was a tough job picking the prize winners, but we did it. You can read some of our favorites on the next few pages. And we want to let you know that even though we can't give all of you a prize, we think you're all winners for caring about forests!

## CONTEST WINNERS

## FIRST PRIZE WINNER

Take some tall cedar trees,  
Add a few noble fir,  
Blend in some salmon and huckleberry bushes,  
Mix in some sword fern.  
With a leaf, lightly spread mushrooms, fungi, and bacteria.  
Bake in the sun for 400 years.  
Decorate with wildflowers, bees, and birds,  
Sprinkle with raindrops,  
Serve with wild raspberry juice.  
Let the tallest trees mark the passing of time,  
Let the gentle breeze blow out the candles.  
Happy Birthday, forest!

First prize was won by **Stephanie Rounce**, who is eight years old. Stephanie wrote her poem about woods near her home in Gig Harbor, Washington. There she often sees deer and other animals outside her window.

Stephanie spends a lot of time in forests. She and her family hike in the nearby mountains as often as they can. So she's really looking forward to her prize, a week at the National Wildlife Federation's Wildlife Camp in North Carolina!

## SECOND PRIZE WINNER

I love the forest  
When the fog gently  
Lowers her soft, soft shroud  
Like a blanket over the trees.  
The sounds are muffled  
As small creatures poke their  
Noses hesitantly out of holes,  
And the great creatures lumber  
Through the shadowy screens that  
Sheathe the sharp skeletons  
Of inky trees. . . .  
I love the forest swathed in fog.

**Melissa Elliott**, who lives in British Columbia, Canada, is 13. She won second prize for her poem about a foggy forest that she knows very well. It surrounds a lake where her grandparents live. And each summer her family goes there to hike and swim.

Back home in the town of North Delta, Melissa likes to write and learn about animals. Her prize is a 35-mm camera, which she can use to take pictures of the outdoors she enjoys so much.



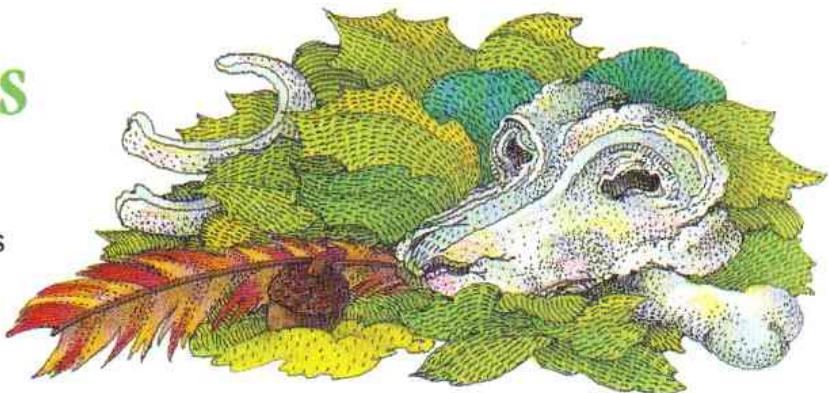
## THIRD PRIZE WINNERS

As the mist rises,  
glistening white flakes float gently down,  
making the brown and bare trees into ghosts  
as they stand in the forest's midst.

The deer come bounding in,  
scarcely to be seen,  
for they blend in  
with the colors nature gives autumn.  
Oh!

The beauty and wonder of the forest!  
Forests are more than trees.

Esther Maas, 9  
Rifton, NY



My uncle took me on a walk through the woods.  
It was full of treasures—  
a hawk feather  
old bones  
and an acorn with a hat.

Sean Johnson-Powers, 5  
Vadnais Heights, MN

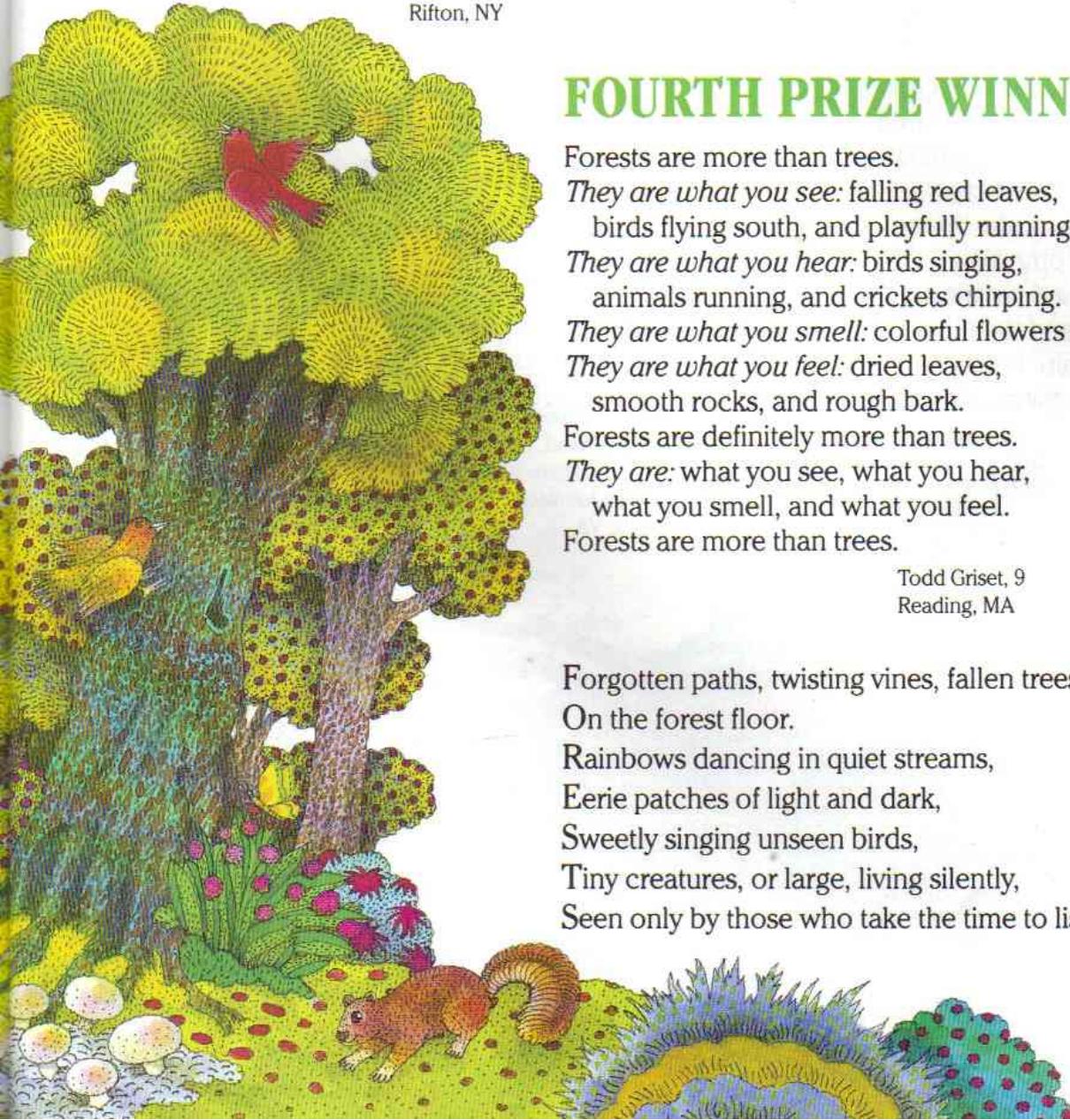
## FOURTH PRIZE WINNERS

Forests are more than trees.  
*They are what you see:* falling red leaves,  
birds flying south, and playfully running deer.  
*They are what you hear:* birds singing,  
animals running, and crickets chirping.  
*They are what you smell:* colorful flowers and wet leaves.  
*They are what you feel:* dried leaves,  
smooth rocks, and rough bark.  
Forests are definitely more than trees.  
*They are:* what you see, what you hear,  
what you smell, and what you feel.  
Forests are more than trees.

Todd Griset, 9  
Reading, MA

Forgotten paths, twisting vines, fallen trees lying  
On the forest floor.  
Rainbows dancing in quiet streams,  
Eerie patches of light and dark,  
Sweetly singing unseen birds,  
Tiny creatures, or large, living silently,  
Seen only by those who take the time to listen, watch, and care.

Becky Richardson, 12  
Oakton, VA



## FOURTH PRIZE WINNERS

### LOOKING UP

The trees tower above,  
Barely letting light through.  
Insects buzz about as the  
Squeaking baby birds await their mother.

### LOOKING DOWN

The moss squishes between my toes,  
Ants go about their daily work,  
Squirrels scurry up the trees,  
And a rabbit burrows into the ground.

### LOOKING ALL AROUND

I see that forests are more than just trees.

Britt Humphrey, 15  
Anchorage, AK

Forests sparkle after a morning shower.

Forests come alive when birds  
chirp, frogs croak, squirrels  
chatter, wolves cry,  
and elk bugle.

Forests come alive  
with the wind howling  
through the trees and the pitter-patter  
of an early winter rain. Forest rains soon  
turn to glistening snow as winter sets in.

Garrett Brown, 10  
Mesa, AZ

Moss and lichen cover the log,  
Threading down into cavernous cracks  
In the places where branches once grew.

On the other side some fungus grows,  
Helping turn the old log into topsoil.

A foot away another part of the log lies,  
Covered with mountainous cracks  
Formed and gouged over the years.

New life will come.

Jesse Richman, 10  
Kittanning, PA

## FIFTH PRIZE WINNERS

Rebecca Bolton, 9  
Portland, ME

Breigh LeBlanc, 10  
Jeanerette, LA

Laura DeLano, 8  
Baltimore, MD

Jo-anne Lee, 12  
Singapore, Republic  
of Singapore

Chris Franks, 13  
Corpus Christi, TX

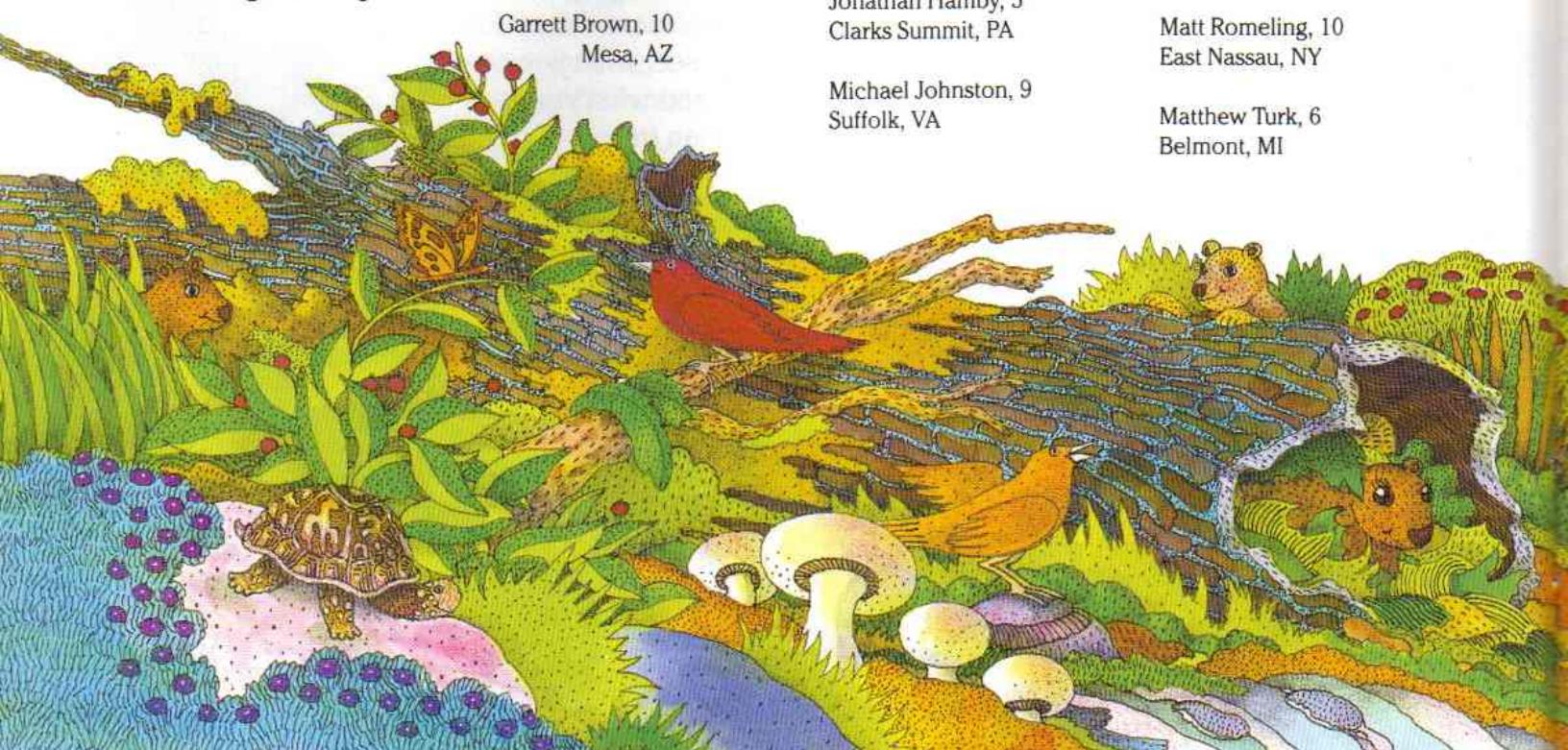
Emily Mann, 8  
Nanaimo, British Columbia

Jonathan Hamby, 5  
Clarks Summit, PA

Matt Romeling, 10  
East Nassau, NY

Michael Johnston, 9  
Suffolk, VA

Matthew Turk, 6  
Belmont, MI



# SIXTH PRIZE WINNERS

## ARIZONA

Kathryn Mueller, 9, Lakeside  
Seth Pierce, 9, Clarkdale

## ARKANSAS

Tracey Borders, 8, North  
Little Rock

## CALIFORNIA

Jeff Bates, 8, Idyllwild  
Kristin Clark, 7, San Bernardino  
Laura Fisher, 7, Sacramento  
Sabrina Fraser-Thomson, 8,  
Pacifica  
Jenny Fuchs, 10, Hawthorne  
Jennifer Green, 13, Walnut  
Creek  
Katy Harlan, 9, Riverside  
William Petersen, 6, Pebble  
Beach  
Matti Sand, 14, La Mesa

## COLORADO

Rose Bent, 7, Paonia  
Nicky Capage, 10, Boulder  
Christina Crispin, 8, Denver  
Kathi Schaff, 8, Englewood

## CONNECTICUT

Eva Gatch, 7, Uncasville  
Cori Smith, 8, Guilford

## FLORIDA

Nicolas Sternberg, 8, Miami  
Jason Trammell, 9, Sarasota

## GEORGIA

Paula Baumgartner, 15, Athens  
Dania Ermentrout, 9, Atlanta  
Megan Pillow, 10, Avondale  
Estates  
Christy Schuetze, 11, Doraville

## IDAHO

Jolene Yacomella, 11, Challis

## ILLINOIS

Angela Horner, 13, Posen  
Lorraine Kammerer, 8, New  
Lenox

Dushyant Sharma, 9, Chicago  
Anne Sias, 6, Moline  
Laura Sprague, 8, Villa Park  
Josh Stern, 8, Springfield  
Lucas Street, 4, Rock Island  
Claire Sufrin, 9, Glencoe  
Kristina Vanni, 8, Libertyville

## INDIANA

Rachel Kauffman, 11, Topeka

## KENTUCKY

Jason Grizzle, 9, Ashland  
Linette McDaniel, 11, Ashland

## LOUISIANA

Allison Pool, 12, Lake Charles

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Penelope Baim, 11, Hebron

## MARYLAND

Paul Gasdia, 11, Perryman

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Patrick Toomey, 10, Reading

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Chesterfield  
Katie Jennings, 10, Sedalia  
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Kate Swords, 10, Sedalia  
Belinda Waltman, 6, St. Louis

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Zeb Summers, 8, Ada

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Emily Taylor, 9, Richmond

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Melissa Johnston, 8, Gig Harbor  
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## WEST VIRGINIA

Jessica Blankenship, 8, Kenova

## WISCONSIN

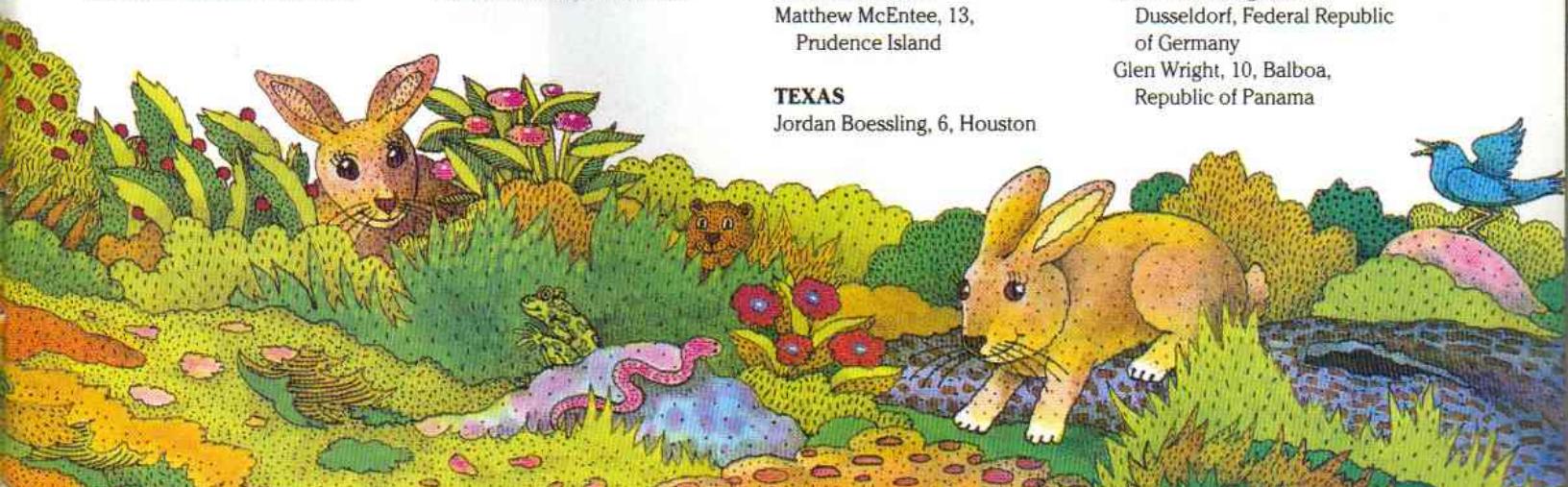
Kathleen Borchardt, 7, Oak  
Creek  
Karen Davis, 9, Racine  
Zillah Langsjoen, 10, Bonduel

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of Germany  
Glen Wright, 10, Balboa,  
Republic of Panama



# Not Quite a Twitcher



Could I, Amy Holland, turn into a twitcher? Well, it's possible—since I like feeding and watching birds, such as the tiny English robin below.

by Amy Holland, as told to George and Kit Harrison

Would you like it if someone called you a *twitcher*? Here in England, twitchers are what we call bird watchers who *twitch* with excitement as they rush off to see a special bird. They'll even go on long trips just to see these birds.



When our neighbor calls me a twitcher, I just laugh—but who knows? Maybe someday I'll turn into one!

Right now I mostly watch the same birds that come every day to the garden behind our 200-year-old house. The garden is full of trees and flowers that invite birds to visit.

But what they really come for are the piles of peanuts I put on the bird table every day.

We live in Arundel, a small town in the south of England. Arundel is a great place to live—for me *and* for the birds. I like it because the English Channel is close enough to walk to. And from my garden I can see a castle that is so old it makes my house seem *new*. (See photo at left.) Arundel Castle was built in 1086, so a couple of years ago it was 900 years old!

The birds like it here because so many people around town feed them. I asked the man at the pet store where I buy my peanuts whether he sells a lot to other people. "I sell over 500 kilograms [1100 lb.] of peanuts a week—and lots of mixed birdseed too. The birds of Arundel are certainly very lucky," he said.

Of all the birds that come to our garden, my favorites are English robins. They stop by several times a day to gobble up peanuts or to hunt for little creatures to eat. Besides loading the bird table with peanuts, I fill a couple of hanging feeders with mixed nuts. Blue tits, blackbirds, finches, sparrows, and doves often come to one feeder or another.

I could tell you the names of lots of birds I've seen, even though I'm not a twitcher. From the time I was very



**Blue tits (above) peck at the feeder in my garden. And ruddy-headed geese (below) come for treats at a reserve.**

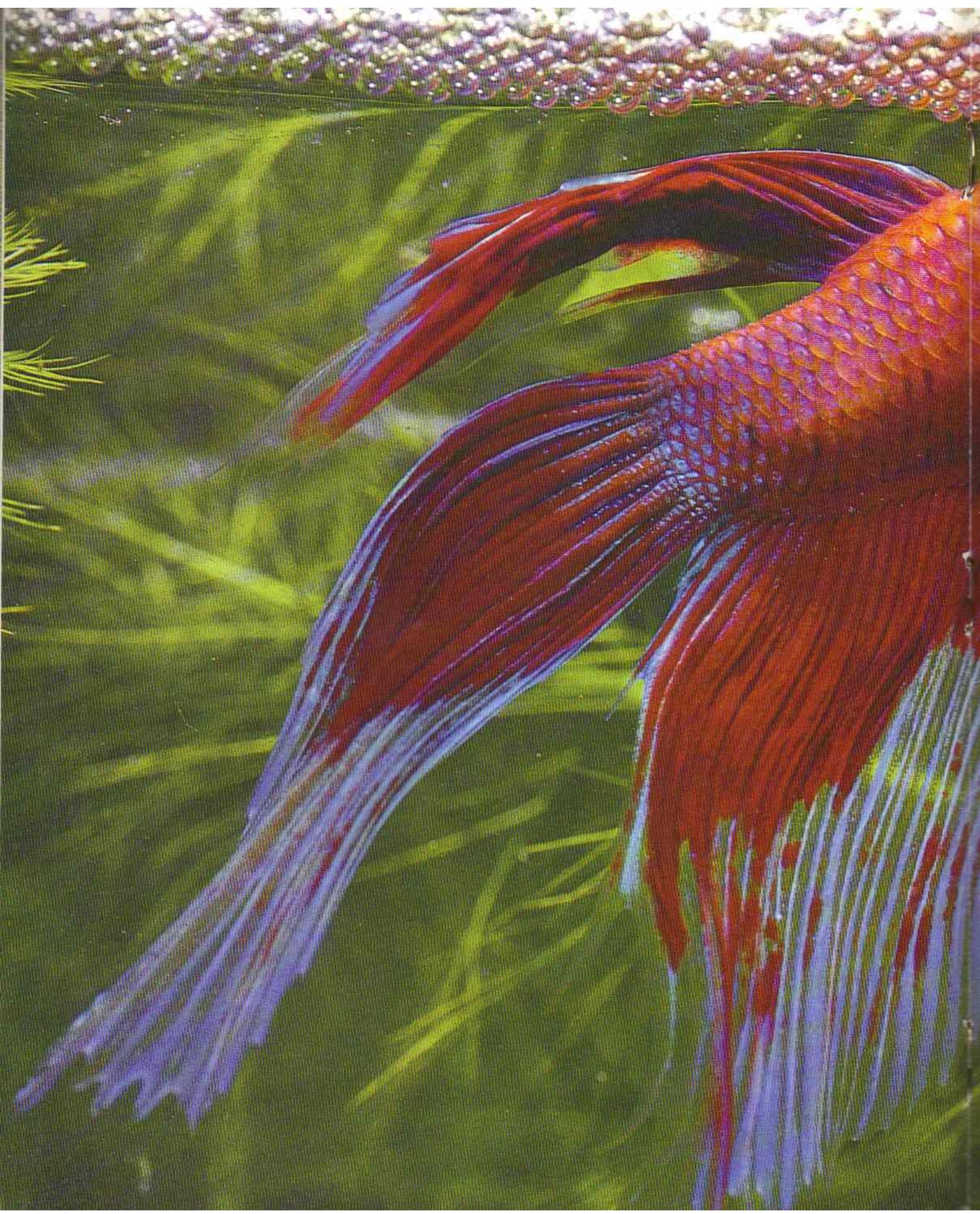
young, I've often visited the Arundel Wildlife Reserve near my house. Sometimes I go with my school class, but my mother and I like to walk around the reserve too.

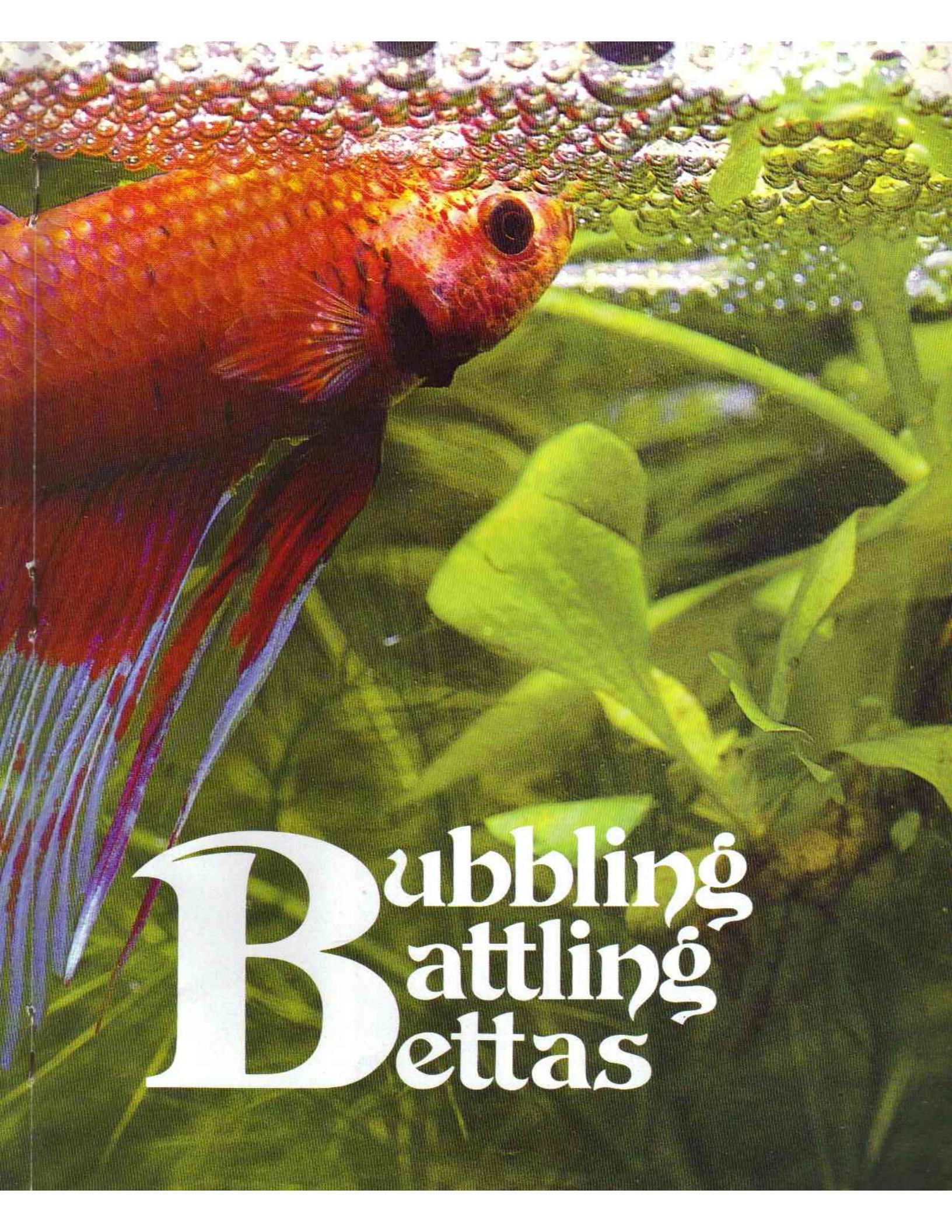
There's a little robin at the reserve that's so tame it will eat crushed peanuts right from my hand. I always look for "my" robin when we go there. Then I also make sure we see the ruddy-headed geese.

Most of the birds at the reserve are wild. They come and go with the seasons. We watch them from far off with binoculars. I'm glad such a big place is saved for birds near my home. And I'm also glad we've saved a small place in our garden where we can watch birds whenever we want! 



Photos by George Harrison





# Bubbling attling ettas

by Claire Miller

"Hey, you two, break it up before you kill each other!" That's what you might say if you saw two male *bettas* (BET-uz) in the middle of a fierce fight. Sometimes the losing fish is able to escape with only a couple of torn fins (**photo at right**). But at other times these fights end with bloody wounds or even dead fish! That's why bettas are often called *fighting fish*.

The best-known bettas are the Siamese fighting fish. These fish live in the countries of Thailand and Malaysia, in Southeast Asia. (Siam is an old name for Thailand.) There the bettas can be found swimming around in shallow ponds and slow-moving streams.

Siamese fighting fish have been bred for their fancy fins and are often sold in pet stores. They don't look much like the plainer ones living in the wild. But they're the same size—no more than 2½ inches (6 cm) long. And they behave in the same way. Here are

some of the surprising things they do:

### Blowing a Bubble Nest

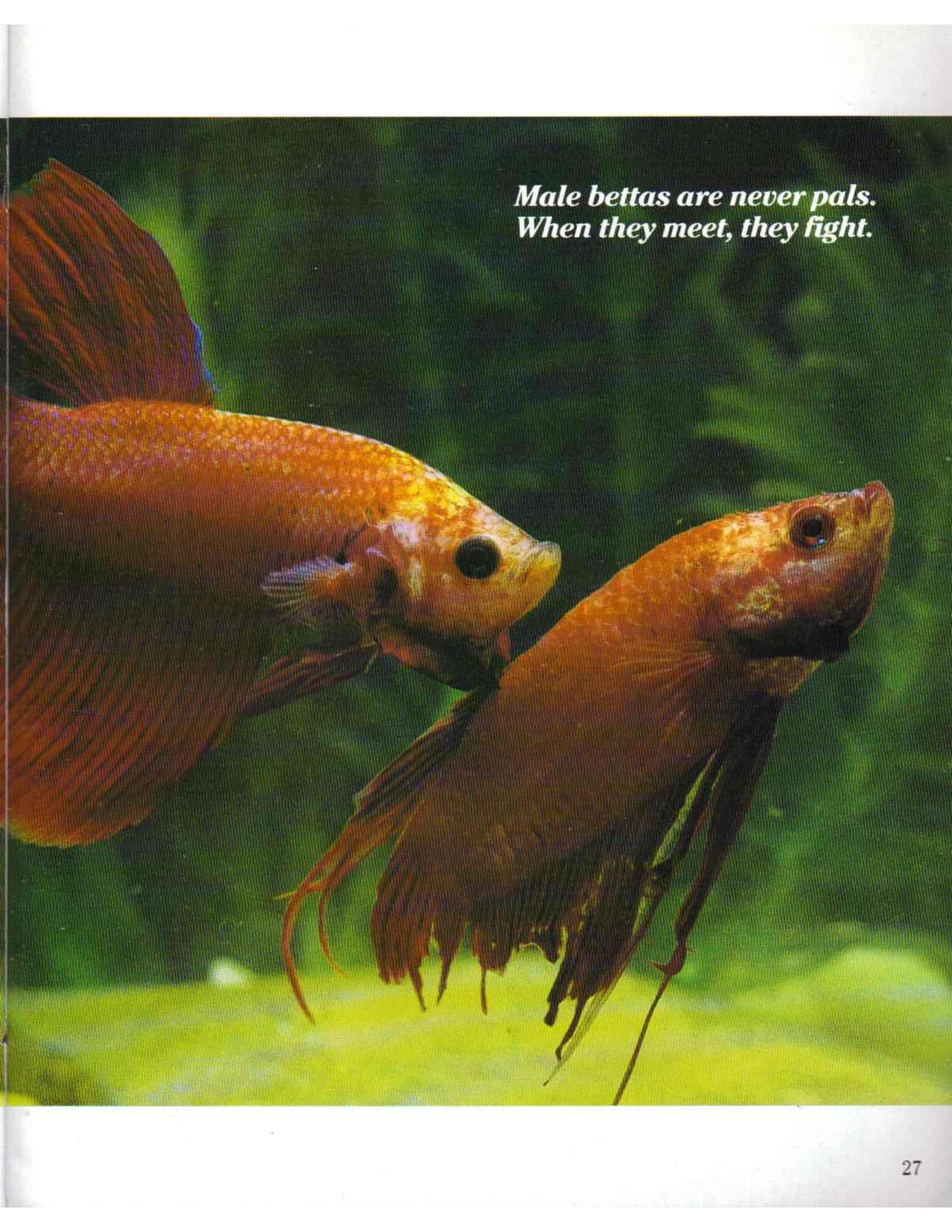
Many fish just lay their eggs and forget about them. But the male betta goes to a lot of trouble to get his young off to a good start. He will fight other fish and chase them away from the place where he wants to build his nest. (To avoid all this fighting, two bettas should not be put together in the same tank.)

When the male betta starts to build his nest, he grabs a mouthful of air at the top of the tank. Then he blows tiny bubbles onto the water's surface. Mucus (MEW-kus), a sticky substance from his mouth, surrounds the little bubbles of air. The mucus makes the air bubbles stronger and less likely to break.

The betta makes lots of bubbles. Then he gathers them to form a nest (**below**). The mucus from his mouth helps the bubbles stick together.



Photos by Dwight R. Kuhn



*Male bettas are never pals.  
When they meet, they fight.*



### Eggs by the Hundreds

When the nest is done, the male tries to get the darker female interested in him (**top left**). He stretches out his flowing fins as if to say, "Stick around and you'll have beautiful *me* for a mate."

As soon as the female is ready, the male wraps himself around her. Then as many as 50 eggs drop out of her body (**middle left**), and the male adds his sperm to them.

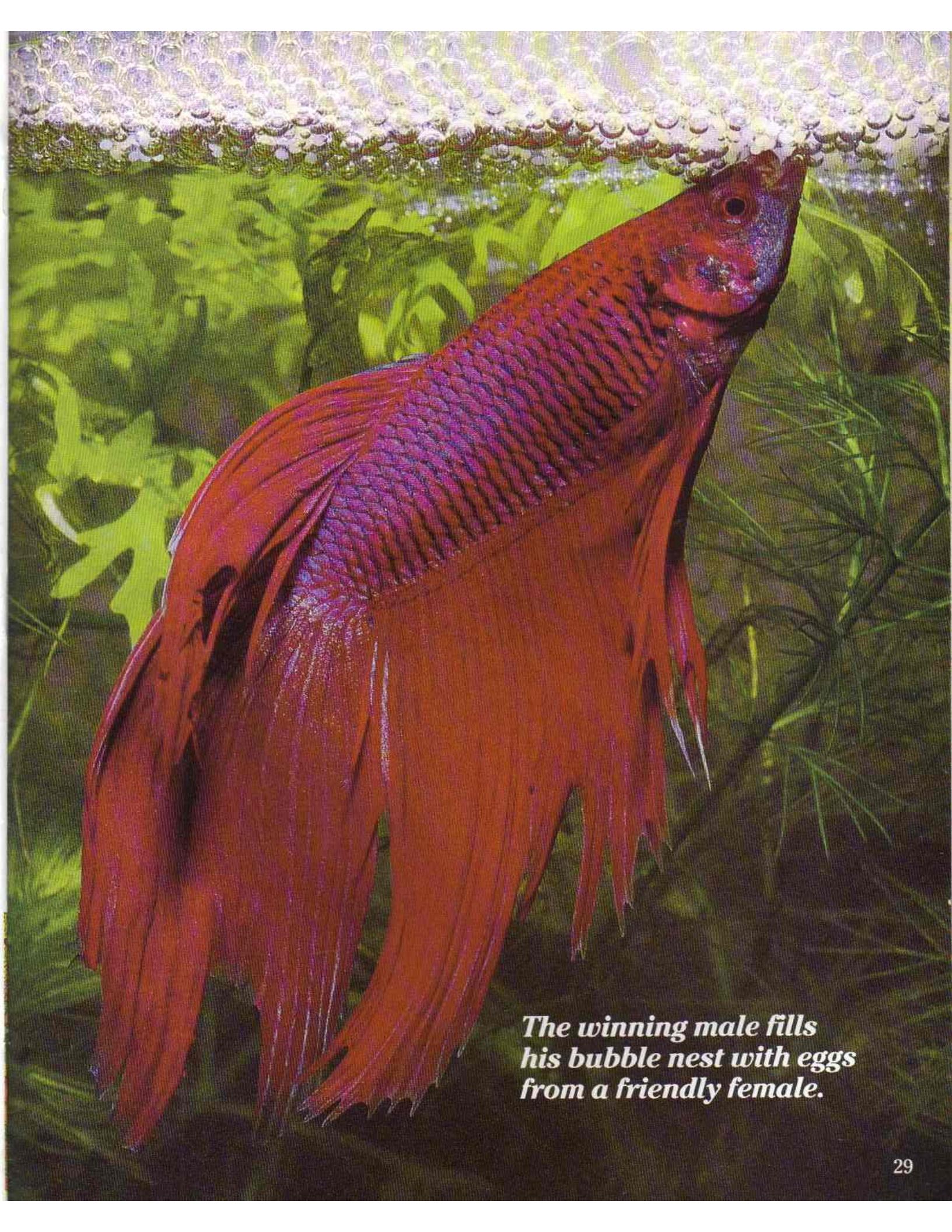
Now the male fish starts gathering the sinking eggs (**bottom left**). Up, down, round and round he searches, trying not to miss a single one. He gathers them into his mouth and carefully spits each mouthful into the nest (**right**). Sometimes the female helps him bring the eggs to the nest.

The two fish will mate again and again. After each mating, the eggs are brought gently to the nest. Several hours later, when the female has dropped hundreds of eggs, her job is done. The male chases her away and won't let her near his nest ever again.

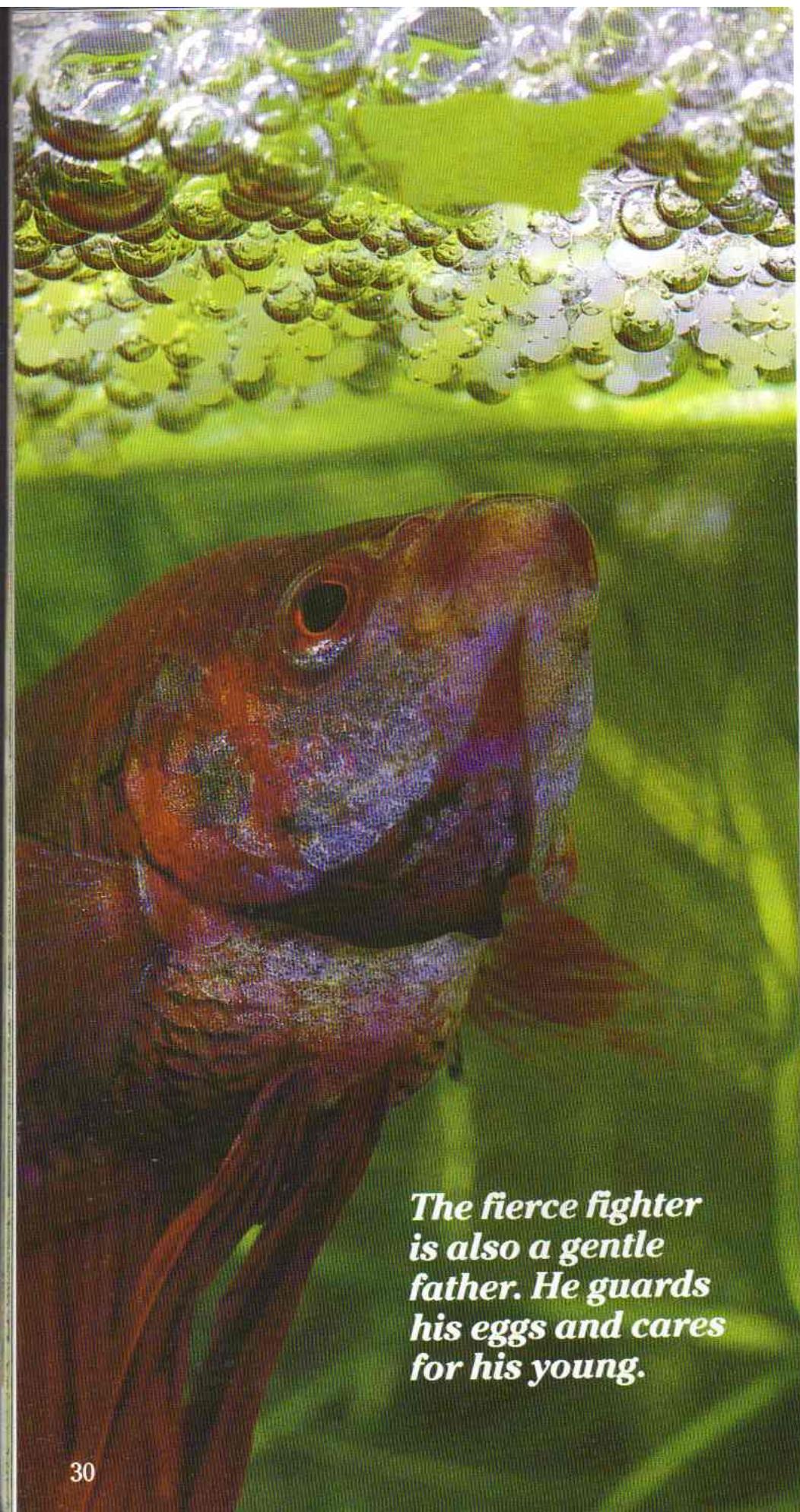
### Fierce but Gentle Father

Now the male guards his nest like a watchdog (**next page**). With his tiny teeth, he nips at almost anything that comes too close. And if a bigger fish or other enemy chases him away, he'll return to his nest as soon as he can.

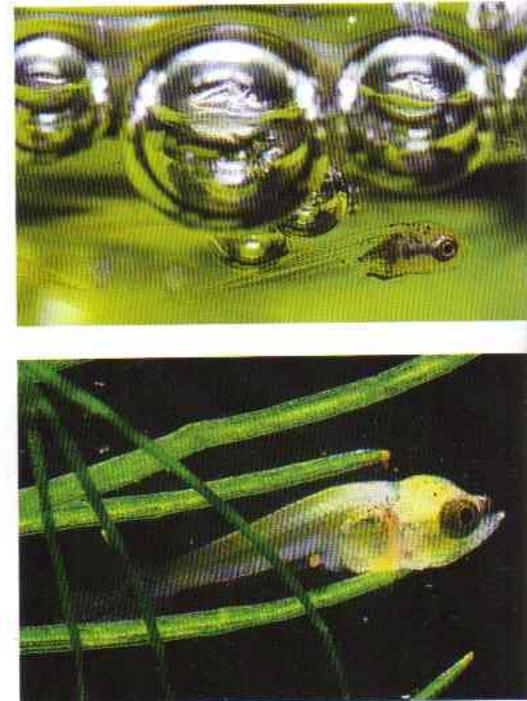




*The winning male fills  
his bubble nest with eggs  
from a friendly female.*



***The fierce fighter  
is also a gentle  
father. He guards  
his eggs and cares  
for his young.***



Besides chasing other fish, another job keeps him very busy: He has to keep making more nest bubbles to replace the ones that break.

In about a week, the babies start to hatch. At first they huddle together under the nest (**top**). But once in a while one of the babies swims away or sinks. Then its watchful father zooms to its rescue. He gently carries the tiny fish in his mouth back to the nest.

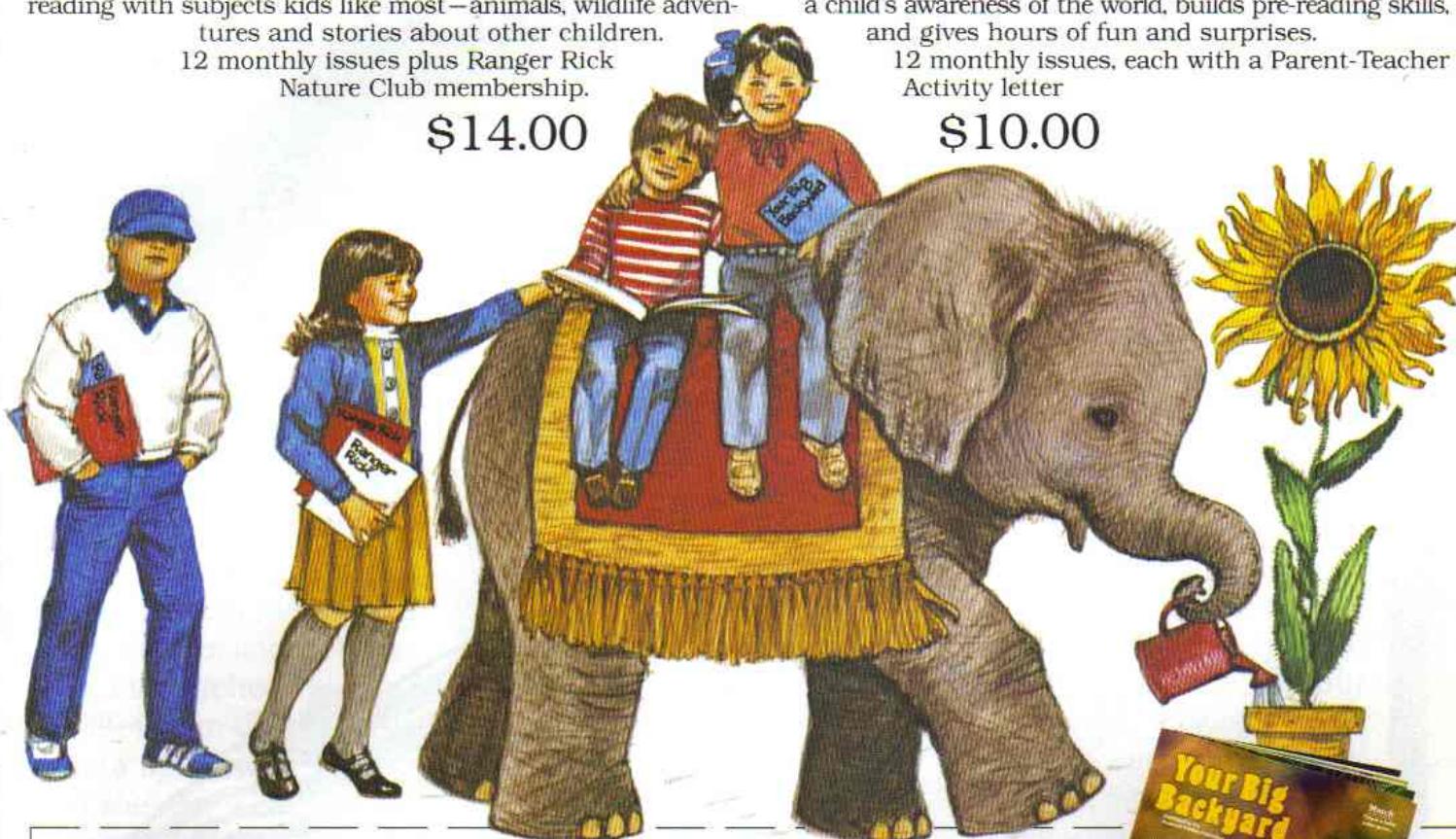
Before long, the young bettas are big enough to swim off and live on their own (**above**). They've made it this far because their fierce father took such gentle care of them. Now each one has a "fighting" chance to grow up and raise its own bunch of bubbling, battling bettas. 

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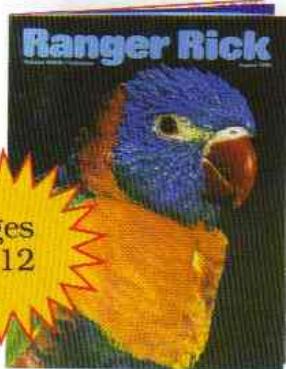
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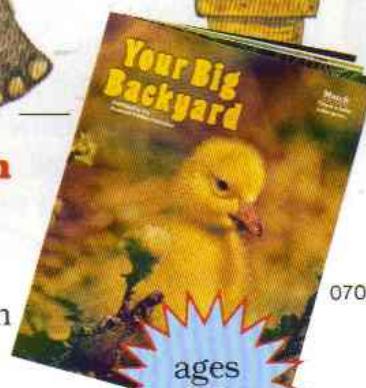
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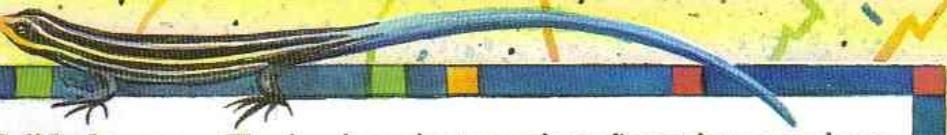
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Drawing by Sharron O'Neil



## Would you let a "creepie crawlie" help you clean your kitchen? Our family does.

Our kitchen helper is a lizard we call Liz. Liz is a *five-lined skink*, named for the five light-colored lines that run down her glossy brown body. Liz also has a bright orange throat, which we can see when she lifts her head. Five-lined skinks are found over most of the Eastern half of the United States, so you may have seen a skink that looks like our Liz.

There's a space between the bottom of our kitchen door and the floor, so Liz can come and go as she likes. But she spends most of her time inside. Where we live there are lots of ants, gnats, spiders, and small moths. And many of them find their way into our kitchen. Liz just gobbles them up! When we swat a fly we toss it to her and she eats it eagerly. We also set out a small dish of water for her, and she licks it up like a puppy with her tiny pink tongue.

Sometimes when we pick up a dish towel, Liz is there! She streaks away as fast as can be. Once in a while she falls into the sink. Then we have to set her free, since she can't climb the smooth sides. This is the only time we touch her, though. We like her to enjoy her freedom, and we don't want to hurt her.

One day Liz fell into the sink, and it was a while before we found out she was trapped there. When I reached in to help her out, she opened her mouth wide, bit my finger, and would not let go. It didn't really hurt, but I couldn't get her to let go of my finger. So I carried her outside hanging from my hand.

That's when she turned my finger loose and ran off under a rock.

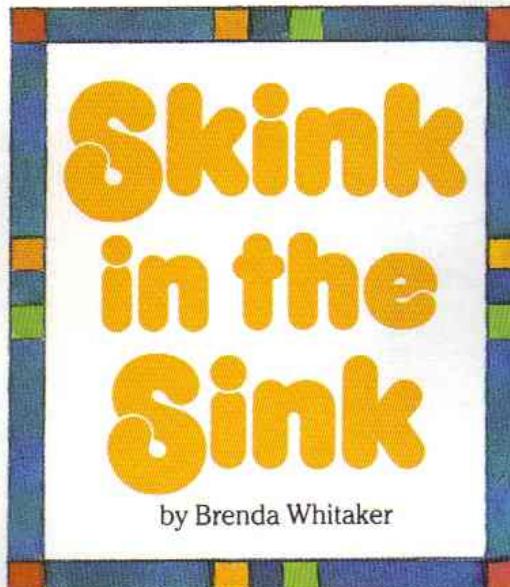
Lately we have noticed that two more skinks have joined our family. We call them Sam and Sarah, and they live on the windowsill in our family room. Sam has a bright blue tail, so we know he is young. But Sarah lost her tail somehow. She probably broke it off when a cat or other enemy was chasing her. Then, while the enemy stopped to look at Sarah's wiggling tail, she scampered to safety. Anyway, she'll grow a new one. But right now she looks really strange.

Sam and Sarah are quite tame. Most of the time they sun on the windowsill. But sometimes they flash across the screen to catch a moth. Or they may crawl onto the table where we do our homework, looking for flies and other insects. It's pretty hard to think about homework when this happens!

Liz, Sam, and Sarah are "house lizards." But outside we can see dozens of skinks darting here or there, sunning on a warm rock, or stalking their dinner. From

time to time we find their small, white eggs when digging in our soft garden soil. We carefully bury them again in a safe place. The young skinks we see running around are thinner than pencils and only 2 inches (5 cm) long. The older skinks seem to lose their lines and blue tails and become a solid brown color. The biggest skink we have ever seen was about the size of a large banana.

Sometimes people ask if we have a cat or a dog for a pet. We say, "No, but we have a skink in our sink!" 

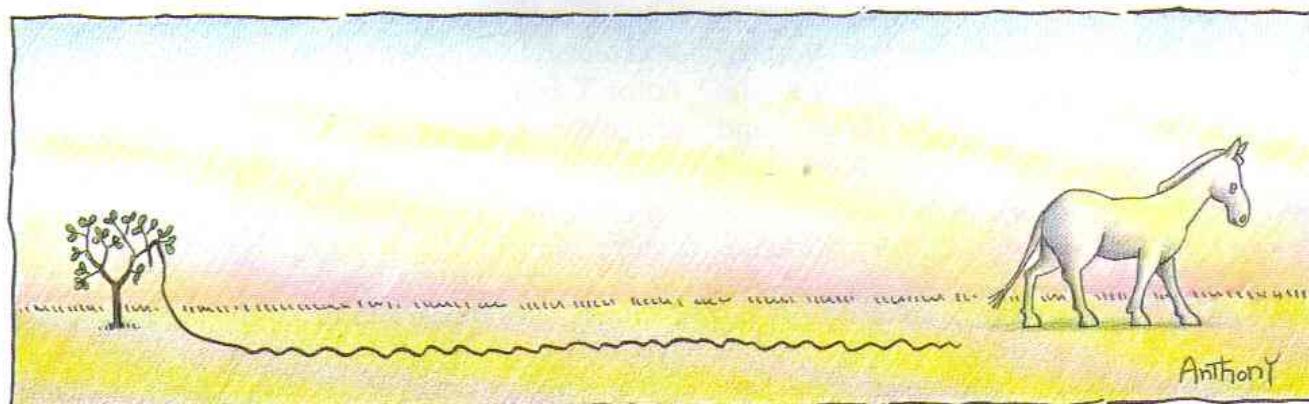
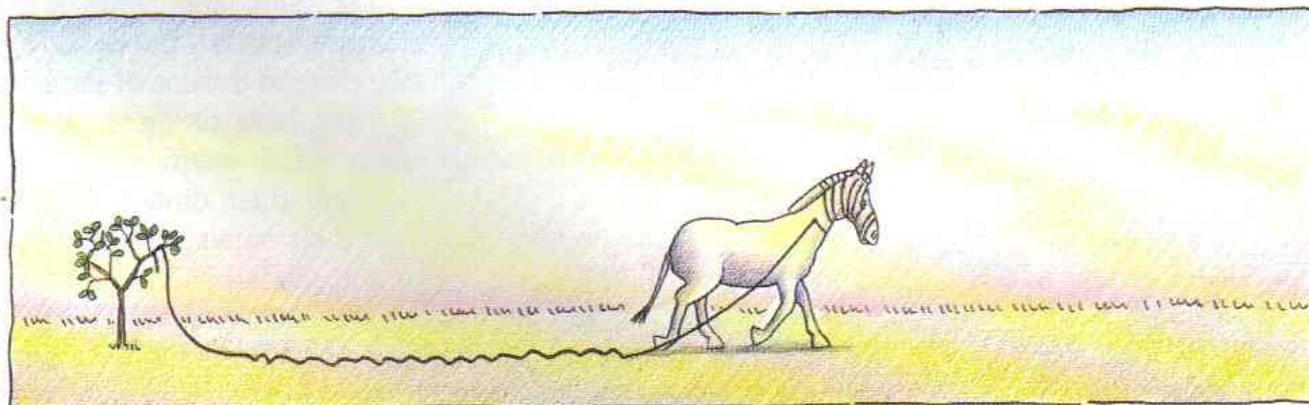
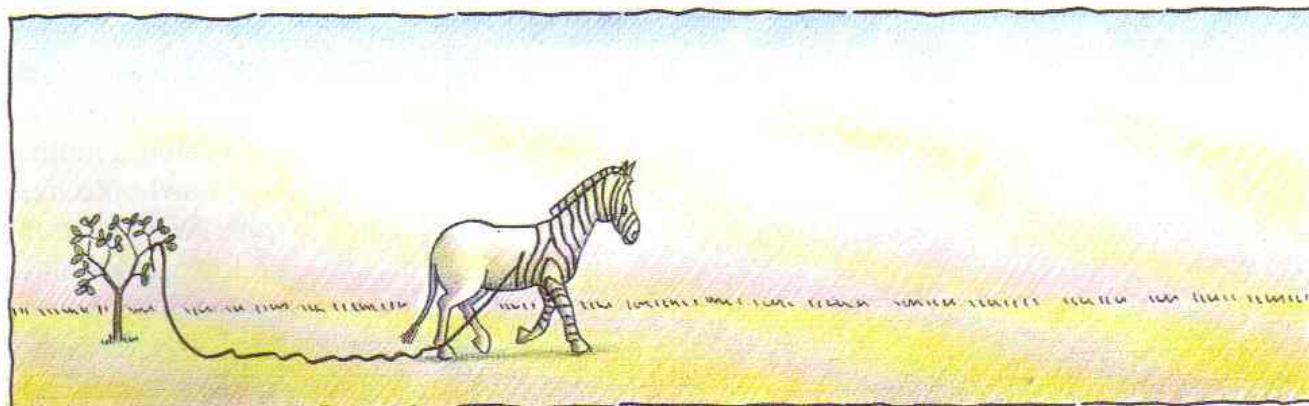
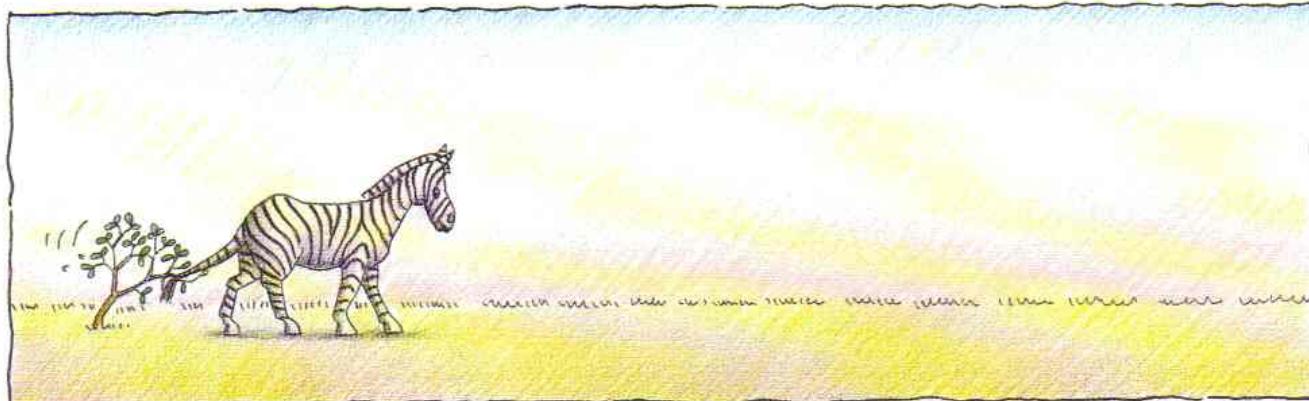


# Skink in the Sink

by Brenda Whitaker

by Anthony Taber

# Critter Crackups



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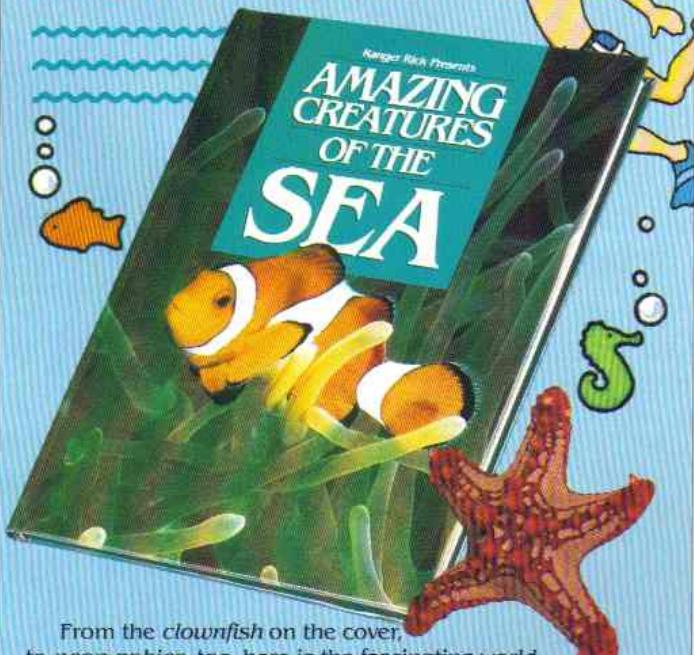
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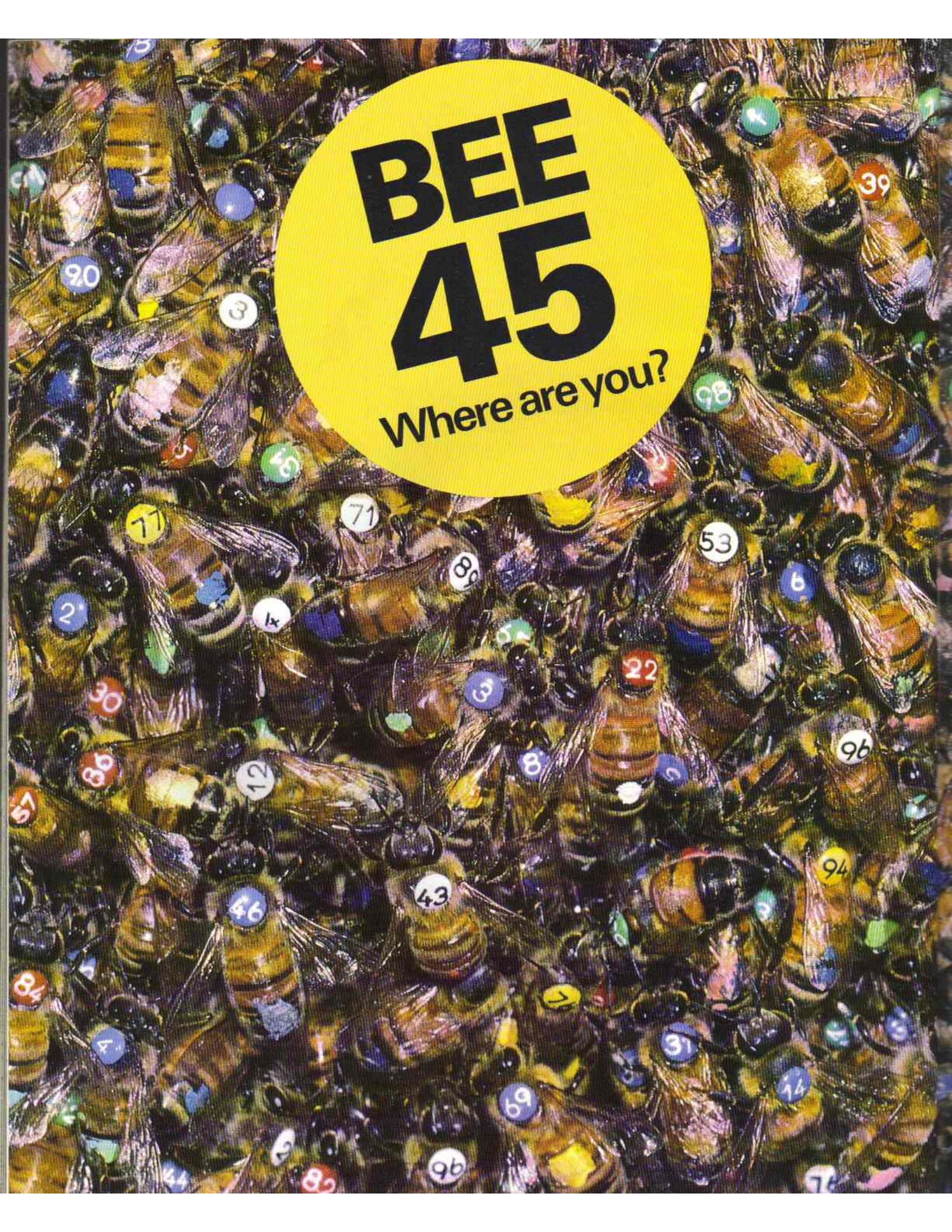
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# BEE 45

Where are you?



**Are these honey bees getting ready for a game of Bee Bingo? Or are they planning to play the lottery? To find out what's going on, you'll have to imagine you're a scientist.**

Your job is to follow some honey bees in order to study them. But how will you be able to tell each bee from its thousands of hive-mates? If the bees were numbered, it would make your job easier.

But wait—how can you keep the bees from stinging you while you stick numbers on them? Here's what some scientists do: They gently brush a bunch of bees from the side of a honeycomb into a container. Then they cover the container and put it into a refrigerator. Chilling the bees makes them stop moving, and

Photos by Scott Camazine

they're not so likely to sting.

The scientists then mark the bees by gluing colored plastic numbers on them (**see photo in circle below**). When thousands of bees have to be marked, the scientists also put a spot of paint on each bee.

If you look closely, you'll see that both a number and a spot of paint were used on many of the bees in the big photo (**left**). And if you look even more closely, you should be able to spot Bee 45, the one that was just marked.

One thing scientists learned from watching marked bees is that worker bees called *scouts* tell others in the hive where they've found food. And they do it by using "body language." For example, when flowers full of pollen or nectar are nearby, a scout dances in a circle. Then the other workers fly off to find the flowers. If the flowers are far away, the scout dances in a special pattern that tells the direction and distance to the flowers. The other workers can find out where to fly by watching the dance.

Scientists have discovered many other strange and wonderful things by marking bees. But they still have lots of unanswered questions. So they will be putting numbers on the backs of the fuzzy buzzers for many years to come.

—Ellen Holtzen

# INCREDIBLE



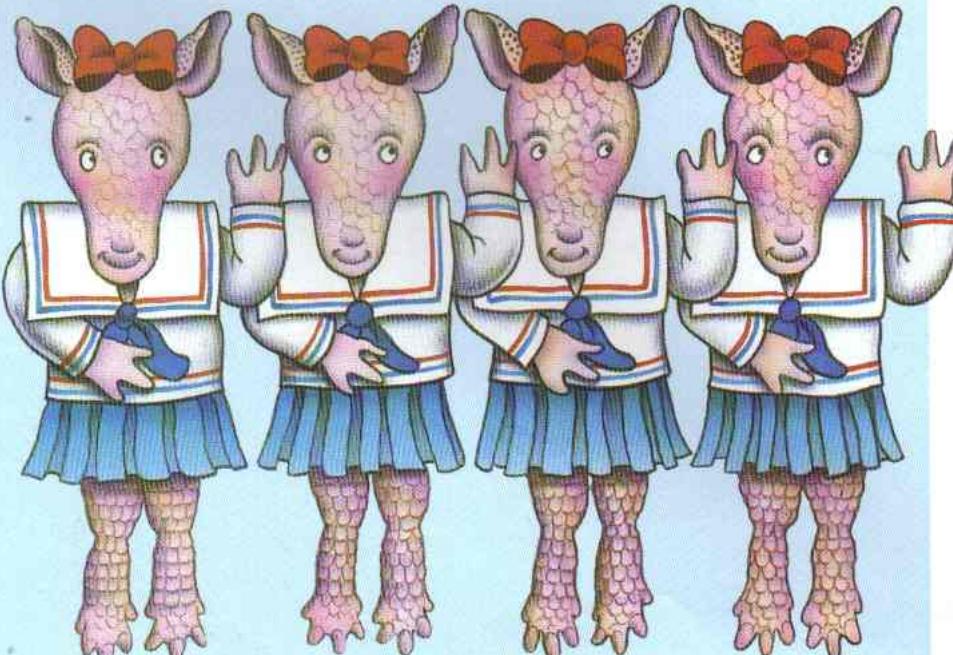
**W**hen a female Surinam toad lays her eggs, a male grabs them and spreads them all over her back. The female's spongy skin grows over the eggs. As the eggs hatch, the babies "pop" out of their mother's back.



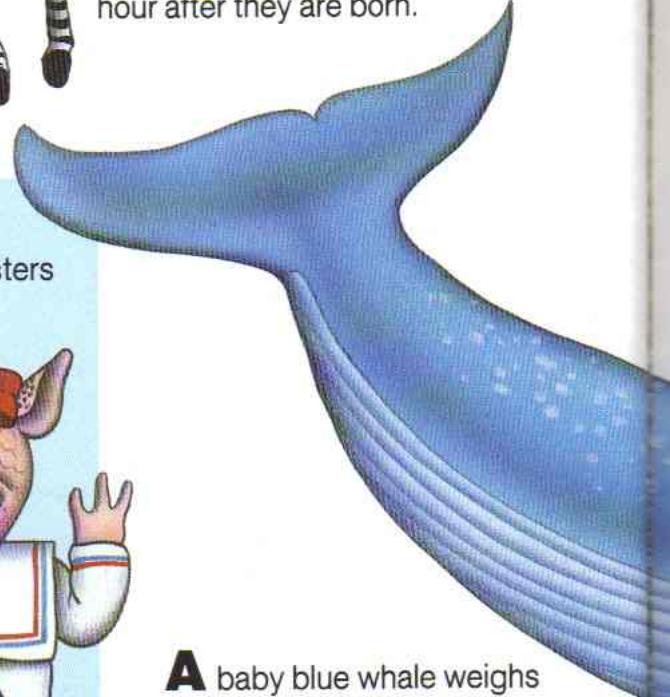
**Z**ebras can run and play an hour after they are born.

**A**rmadillos are almost always quadruplets. All four baby armadillos are exactly alike. So

the babies are always the same sex—they are all sisters or all brothers.



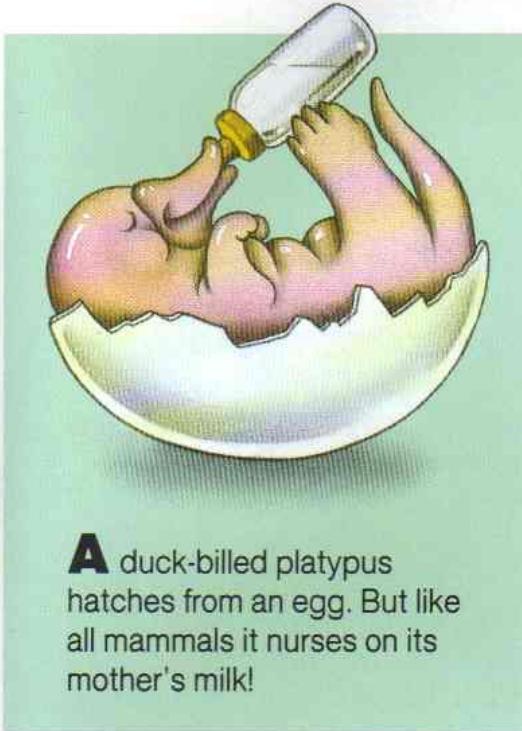
**A**baby blue whale weighs nearly three tons at birth. That's about what 25 newborn elephants weigh! The baby whale gains 200 pounds (90 kg) a day just by drinking milk from its mother.



Drawings by Pidgeon

by Betty Blair

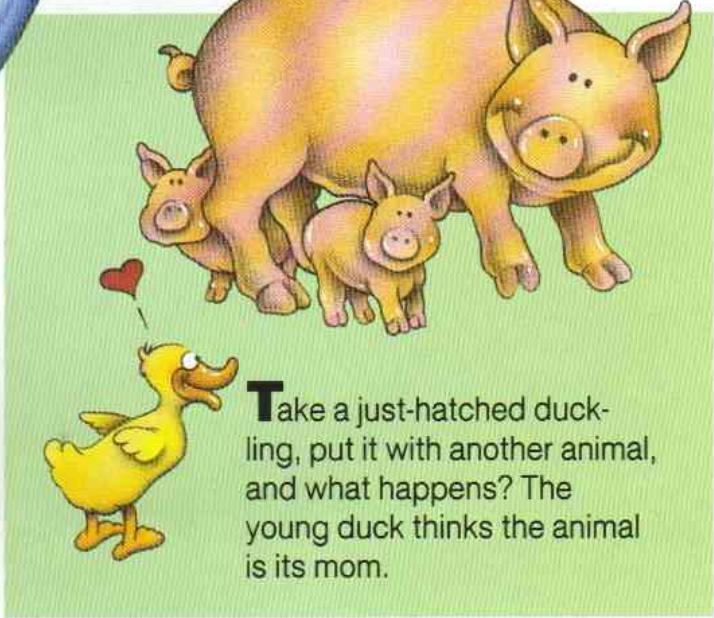
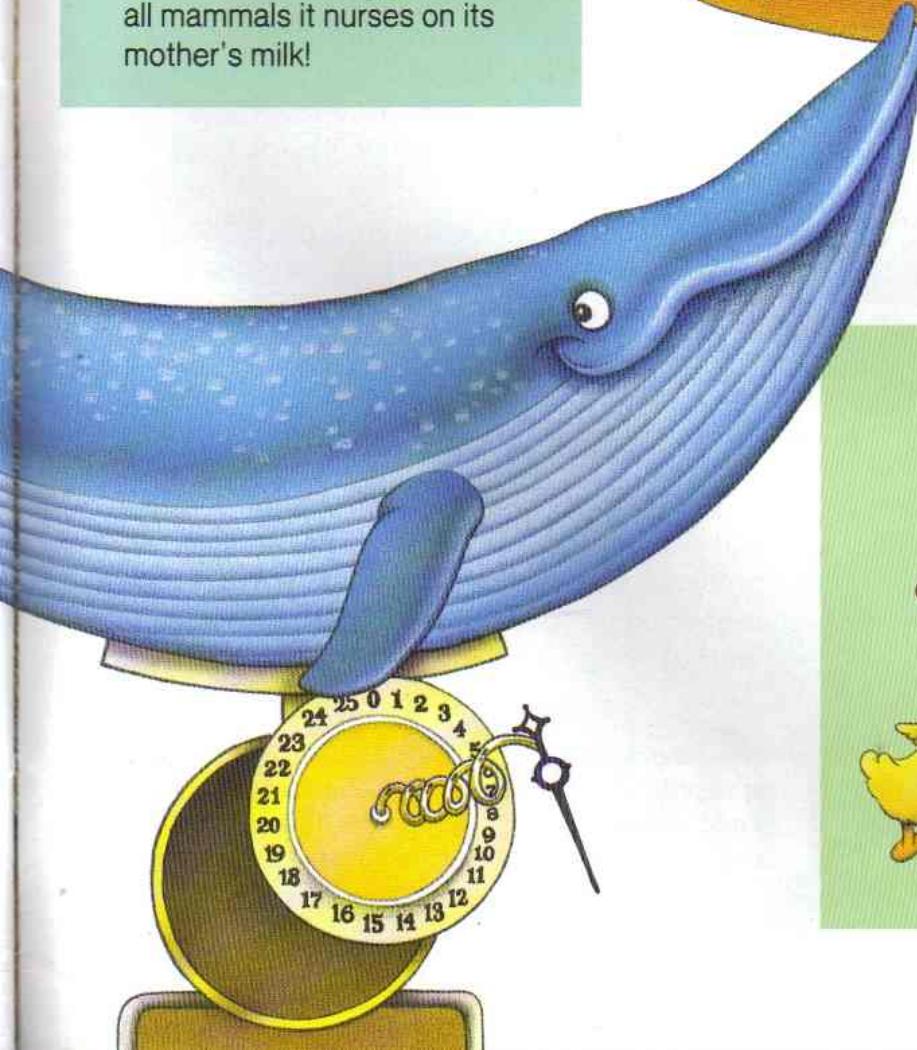
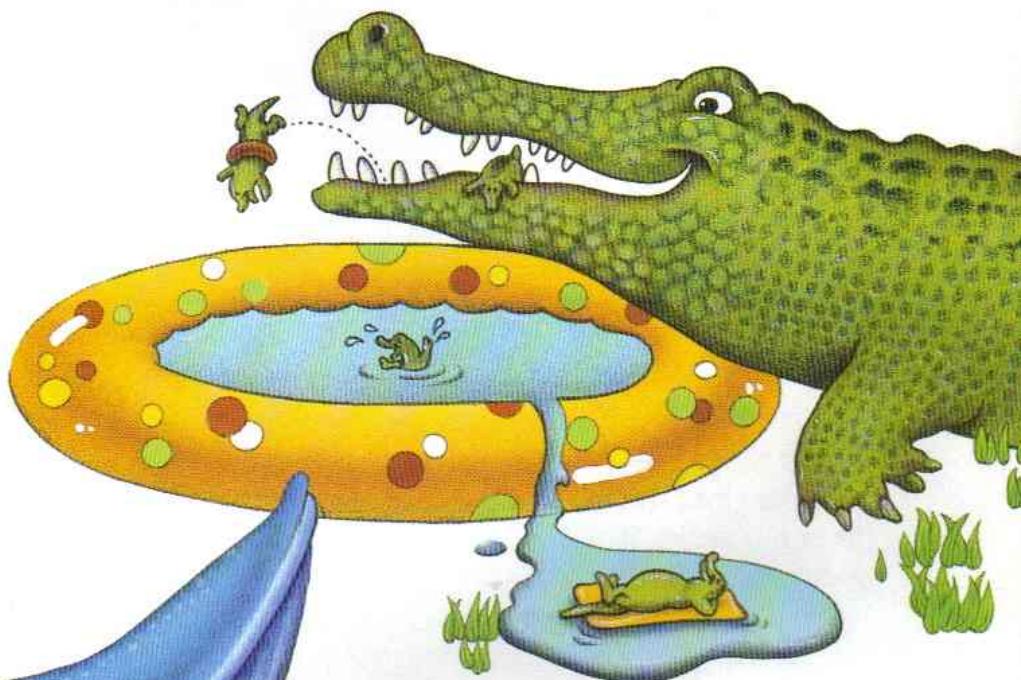
# Animal Babies!



**A** duck-billed platypus hatches from an egg. But like all mammals it nurses on its mother's milk!

**S**oon after they hatch, some young alligators crawl into Mama Gator's open mouth.

Mama carefully carries the babies from their nest on shore down to the water.



**T**ake a just-hatched duckling, put it with another animal, and what happens? The young duck thinks the animal is its mom.



# Dear Ranger Rick,

## A Bird's Eye View

I thought the article "My Visit to a Vulture Cave" in the March 1987 issue was really interesting. Maybe you'd like to hear about an adventure I had with seven turkey vultures.

One day last summer, I was hiking in the woods in nearby Bristol, Vermont. I climbed up to some rocks that look out across Lake Champlain. What a great view!

Well, since it was such a nice warm day, I lay down on a large rock to rest a while. Before I knew it, I was taking a nap.

A bit later, a noise woke me up. Circling above me were seven turkey vultures. They were so close that I could see their eyes and their red necks! They must have thought I was a dead animal fit for a snack.

As soon as I sat up, they flew away. I guess they were disappointed, but I wasn't!

David Meltzer; Middlebury, VT

## A "Wild" Day

Last year my mother and I visited the Cape Romain National Wildlife Refuge, off the South Carolina coast. We hiked for a while. Then we sat by the edge of a pond to rest. Suddenly Mom pointed to what looked like a log in the pond. "Could that be an alligator?" she asked. For a long time we kept watching and weren't sure. But finally it moved. We'd seen our first alligator in the wild!

Later that day we came to other ponds where there were more alligators. We even got close enough to a big one to see its huge claws and leathery skin. But we were careful not to get too close!

After our exciting day, we slept soundly in our tent that night. I hope someday we can go back again.

Ahren Schaefer; Spring Green, WI

## Helping a Friend in Need

At recess today, I was walking along a fence in a parking lot. Suddenly a bird ran in front of me. It looked like a piping plover.

I remembered reading about piping plovers in "The Adventures of Ranger Rick" (June 1987). The bird acted like the one in the story: It used "the old broken wing trick." It was running around like crazy, dragging its wing. Then I saw its four eggs on the ground.

Suddenly a kid from the third grade came over with a stick to break the eggs. I yelled at him to put the stick down. By that time a crowd had gathered. The kid dropped the stick and ran away.

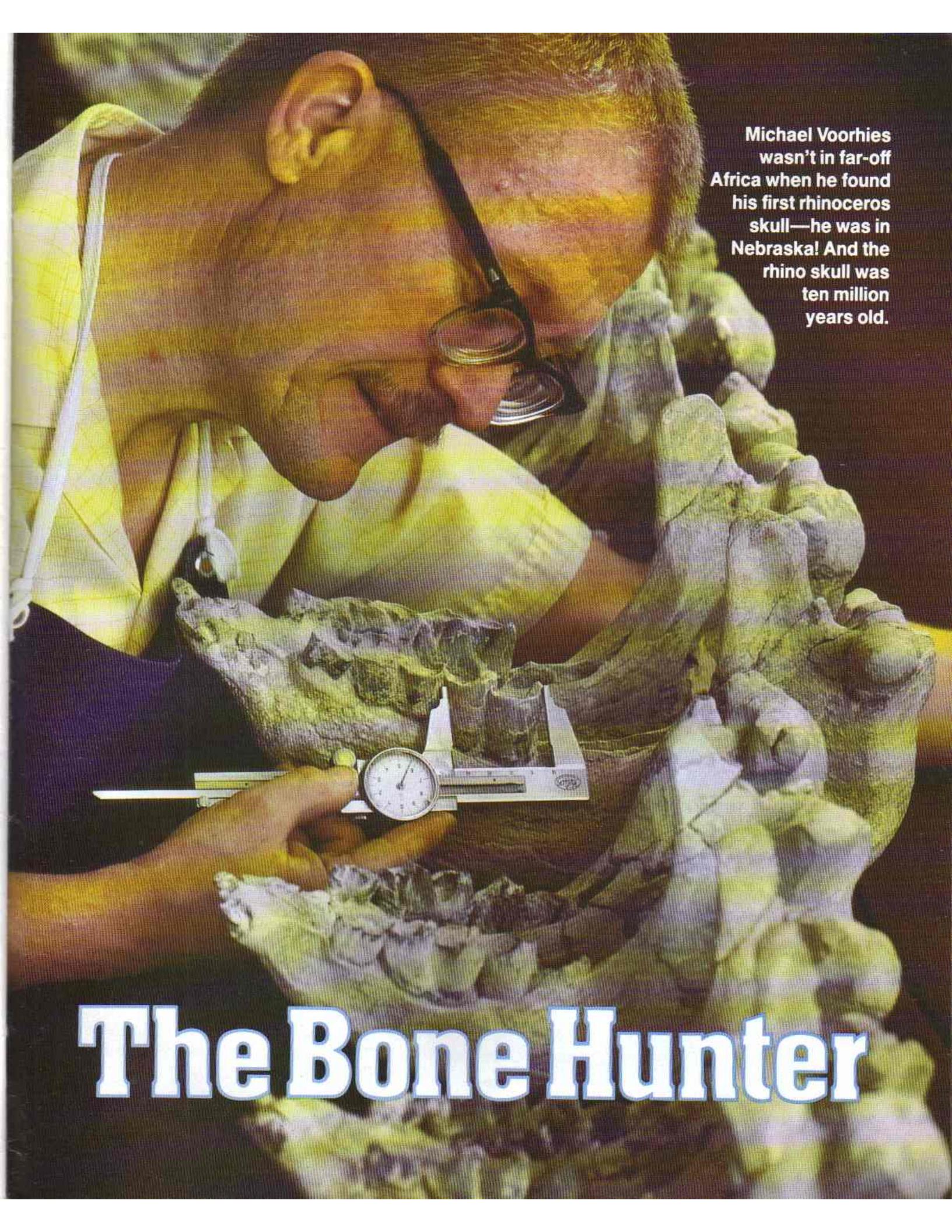
The mother bird was now on the fence squawking and scolding. I told everyone to back off and stay away from the nest. They did, and then the mother bird calmed down and sat on the eggs. Did I do the right thing?

Jennifer Olmstead; Warren, MI

Yes, Jennifer, you sure did! The bird you saw was probably a killdeer, one of the piping plover's cousins. I'm glad you knew that the best thing to do was let the nest alone—and let the mother bird "do her stuff." R.R.

## Answer to Bone Bed Baffler, page 47:

The hidden mammal is a prehistoric horse called *Pliohippus* (PLY-o-HIP-pus). It lived millions of years ago and was about as tall as a small pony is today. It was a relative of our "modern" horses and ponies.

A color photograph of a man in a yellow shirt and blue jeans, wearing a hard hat and safety glasses. He is holding a large, weathered rhinoceros skull in his left hand and a dial caliper in his right hand, using it to measure the skull. The background is dark and out of focus.

Michael Voorhies  
wasn't in far-off  
Africa when he found  
his first rhinoceros  
skull—he was in  
Nebraska! And the  
rhino skull was  
ten million  
years old.

# The Bone Hunter

by Shirley Gilfert

Michael Voorhies has always been a bone hunter. When he was young, he explored the dry creek beds near his home in Orchard, Nebraska. There he'd find bits of bone or teeth that might be fossils. And he would wonder what kind of animals they had come from.

Michael decided he wanted bone hunting to be his career. So in college he studied to become a *paleontologist* (PALE-ee-on-TAHL-o-jist). This kind of scientist hunts for bones of ancient animals and studies how they lived.

### HUNTING FOR BONES

Several years after he finished college, Michael returned to the creek beds he had explored as a kid. Now he was looking for fossils for the university where he worked. He knew what kind of fossils he wanted to find. So he searched along the low cliffs that lined one of the creeks. That's where he spotted a gleaming white animal skull.

The skull was just out of Michael's reach. So he hopped onto a ledge where he could reach the skull more easily. He quickly brushed away the soft, crumbly rock. And what he found excited him: It was the entire skull of a baby rhinoceros that had lived millions of years ago. He

dug deeper, and before long he could tell that the whole skeleton was there.

What a super-special find! Never before had paleontologists found entire skeletons of these long-ago rhinos. They had found only pieces of bone that gave them a few clues about how large or old the animal was.

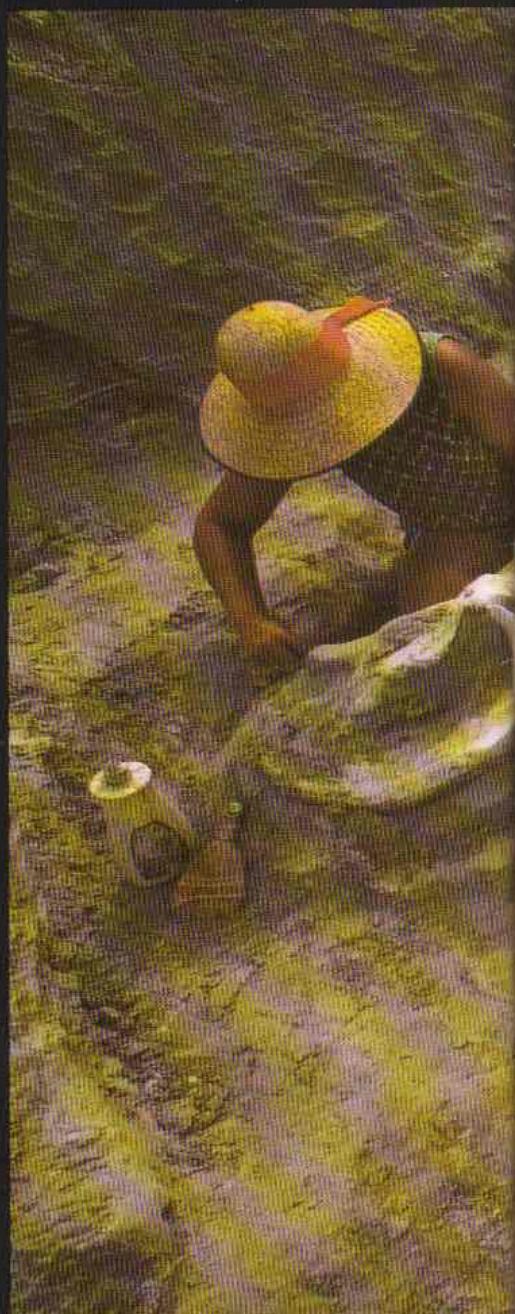
This baby rhino skeleton was just the first of many skeletons found buried along the creek beds. Over the next two summers, Michael and a crew of helpers dug up over two hundred skeletons of different kinds of ancient animals. Besides rhinos, they found camels, deer, four kinds of horses, and many smaller animals.

The fossils were almost perfect. They showed details about the animals that the paleontologists had never seen before. Some rhino skeletons had smaller skeletons inside them—mother rhinos with unborn babies. Besides the large animals, they found skeletons of wading birds. And inside those skeletons were the bones of the mice and lizards the birds had eaten!

### DEADLY DUST

By studying the fossils, the scientists could tell how the animals had died: Ten million years ago, a volcano must

**M**ichael and his team worked for two weeks to uncover these rhino skeletons (below). They brushed and chipped away the crumbly rock, moving slowly so they wouldn't break the brittle bones. They used pencil-sized brushes and tiny tools like a dentist uses. When they found a cracked bone, they squirted a glue-like liquid into the bone. The



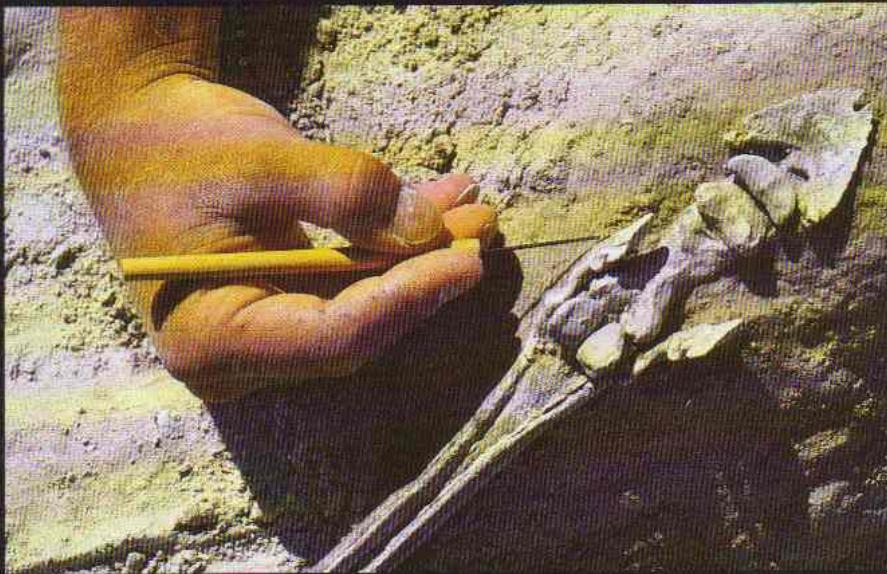
**liquid sealed the crack and made the bone stronger.**

**Bones were everywhere: Under the rhinos were horse skeletons, and under the horses were many layers of smaller animals. So the workers had to be careful how they moved about the area. Often they had to stretch out on the ground and reach over other bones to work on a skull (right).**



Photos by Annie Griffiths © National Geographic Society





**M**ichael discovered some new facts about horses. He found skeletons of four ancient types. In the photo at left, he points to the tiny toes of a three-toed horse. He found two other kinds of three-toed horse and also a

have erupted with a hundred times the power of Mount St. Helens. (Mount St. Helens erupted in the northwestern United States in 1980. Its ash cloud darkened skies over several states.) The ancient volcano spewed a thick cloud of ash that may have traveled a thousand miles (1600 km) before it settled to earth. The ash cloud drifted down over what is now northeastern Nebraska.

At that time, Nebraska was like the grasslands of Africa today: hot and dry. There was a shallow water hole where the creek beds are now. It was a gathering and drinking place for rhinos, horses, deer, and camels.

Herds of these animals must have been gathered at the water hole as the great ash cloud settled down on them. They became restless

as they breathed in the deadly dust. The rhinos probably milled around in confusion and trampled some of the smaller animals. Finally they all died as their lungs filled with the ash.

In some places this ash piled twice as high as any of the animals. So the ash not only killed the animals; it also buried them completely. This quick burial helped preserve the bones. That's why, millions of years later, paleontologists like Michael could find so many skeletons.

#### **WATCHING THE BONE HUNTERS AT WORK**

Michael's childhood play area soon became world-famous. The state of Nebraska bought the land and will make it a park. There people will be able to watch the busy paleontologists. They'll see



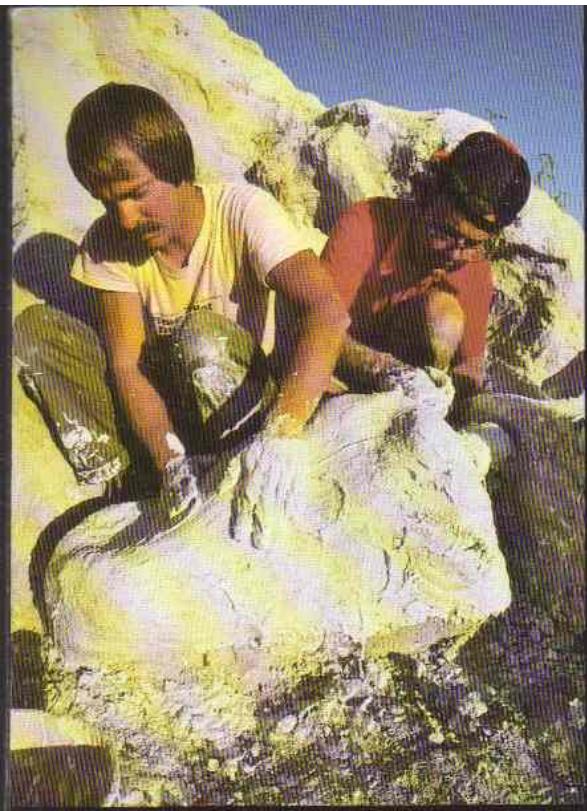
one-toed horse (below). Scientists knew that these animals were relatives of the modern horse. But until this find, scientists thought these different horses had lived at different times.

In the photo shown below,

Michael and another worker, Greg, were preparing to take this horse's skull out of the ground. Michael carefully scraped and brushed the rock from underneath the bone. Greg watched for any bone pieces that might have

come loose. Later they would wrap the skull and neck in a special plaster "jacket." (See next page for how skulls were wrapped.) The jacket would protect the bones as they were moved to Michael's university.





that hunting for bones is lots of fun, but that it's also very hot and hard work.

The ash dust is stirred up by the slightest breeze. And even after ten million years, it can cause problems. The bits of dirt can prickle people's skin and make it itch. The ash can also clog and hurt their lungs. When a breeze is blowing, the bone hunters wear scarves or masks over their mouths and noses so they don't breathe in the dust.

Bone hunting may be dusty hard work, but Michael still gets excited whenever he finds a new bone. He looks at it and imagines a rhino grazing on the ancient grasslands. And he smiles, knowing he's the first person ever to see that piece of earth's ancient history. 

**P**utting a jacket on a rhino skull was a messy job (left). First Greg and another worker wrapped the skull in wet toilet paper. Then they covered the bone with layers of burlap soaked in plaster. (The toilet paper kept the plaster from sticking to the bone.) By the next morning the rhino's new plaster jacket was dry and hard.

At the end of a month of digging and scraping and

plastering, Michael was surrounded by tons of bones in their jackets (below). They were ready to be shipped to the university. There Michael would begin studying them. For example, by measuring teeth (see p. 41) he could find out how old the animals were when they died. Slowly he and his team would learn more about life ten million years ago.



Lying among the bones in this fossil bed is a prehistoric mammal.  
Color in each section where you see a dot. Then the hidden creature will appear.

Answer on page 40



Drawing by Lyn Hunter

## Bone Bed Baffler



"Don't dare come closer!" this Canada goose seems to say. "No one gets near my nest of new goslings!" Then with a loud *honk!* and a hard *whap!* of her wings, she chases the enemy away.